

Fig 1

Fig 2A

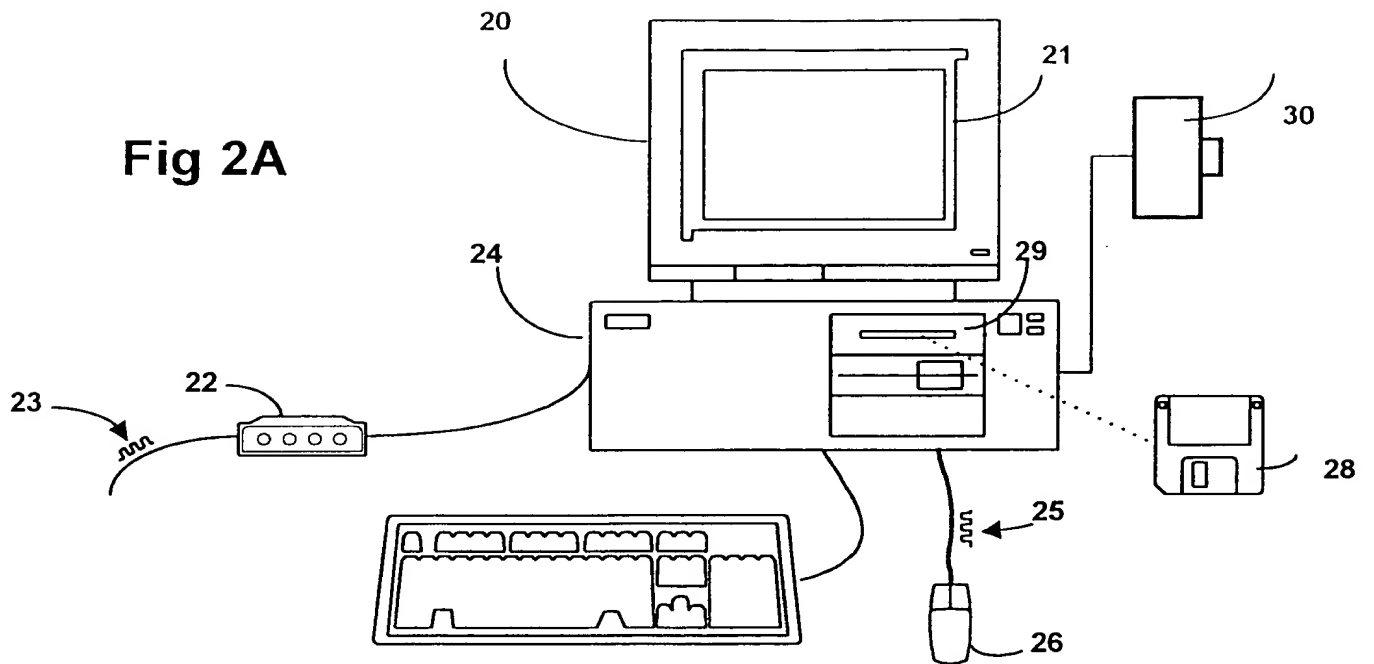


Fig 2B

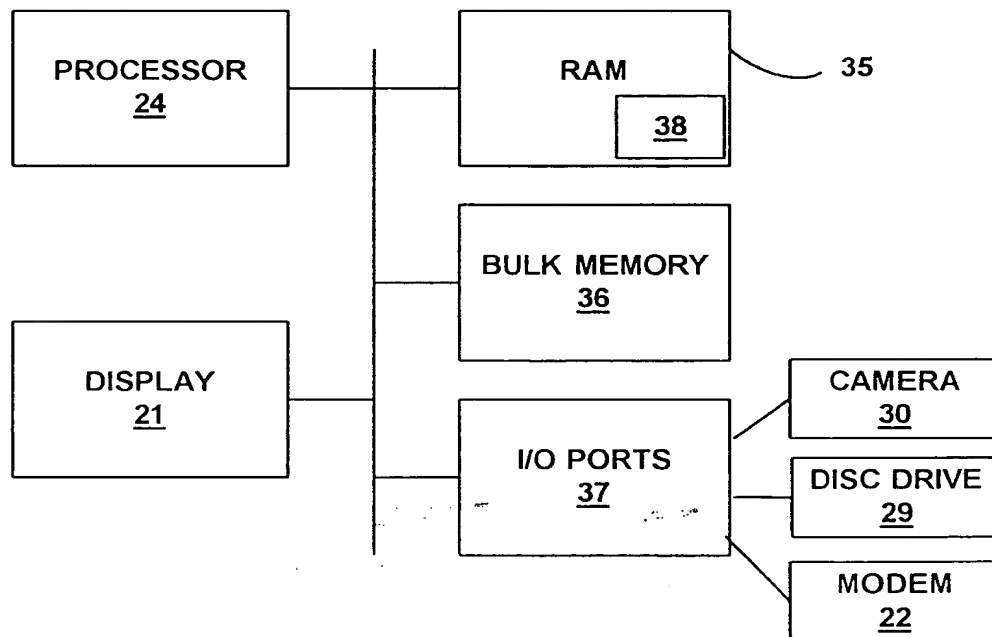


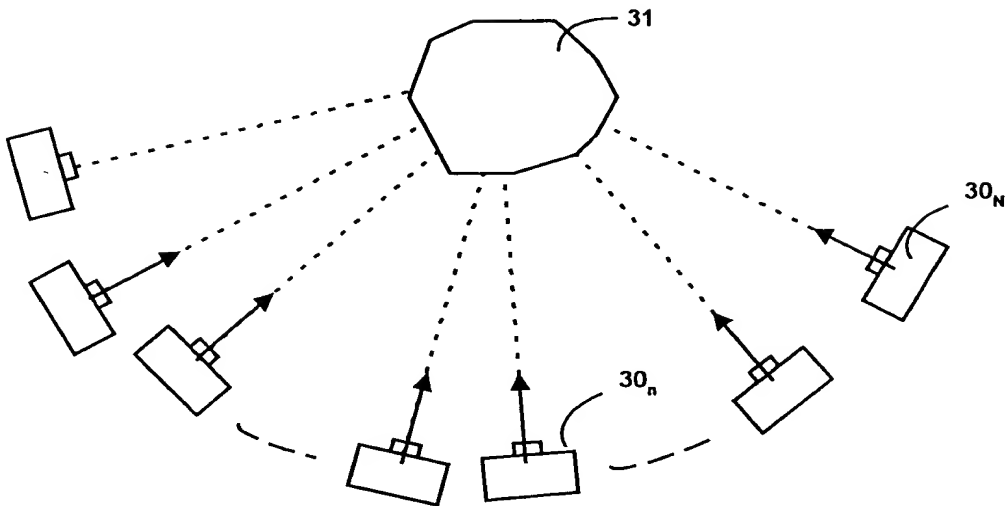
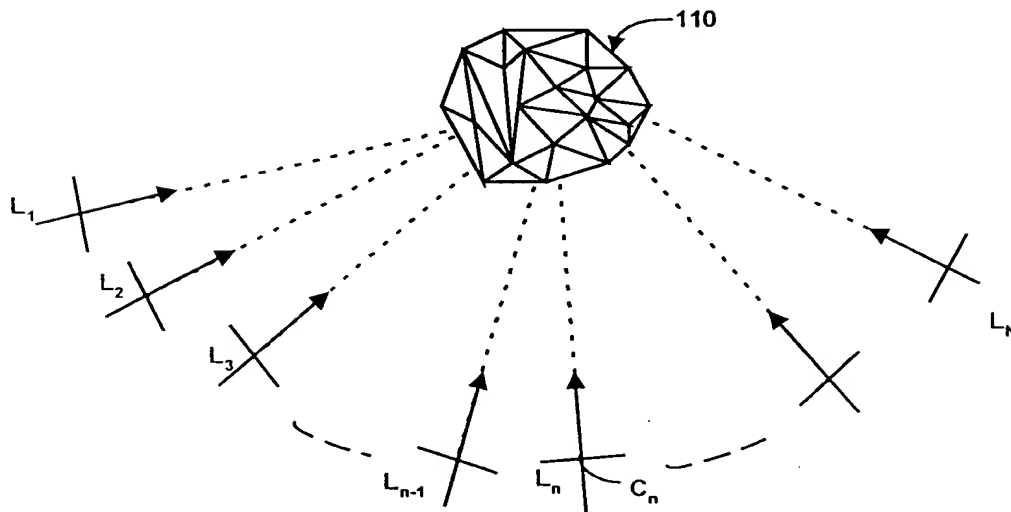
Fig 3A**ACTUAL CAMERA POSITIONS RELATIVE TO THE OBJECT****Fig 3B****VIRTUAL CAMERA POSITIONS RELATIVE TO THE MODEL**

Fig 4

PERFORMING MATCHING BETWEEN FEATURES OF NEW IMAGE
AND PRECEDING IMAGE

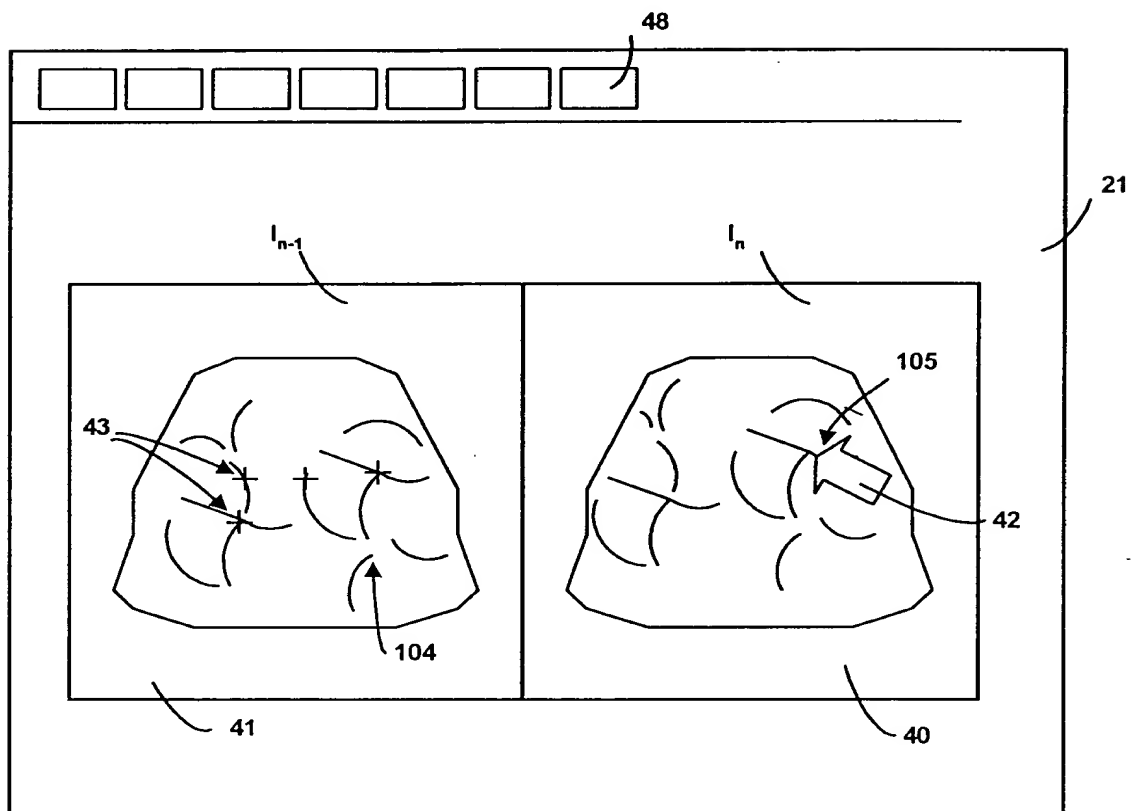


Fig 5

MAPPING EXISTING MODEL POINTS INTO THE VIRTUAL IMAGE
PLANE AT THE VIRTUAL CAMERA POSITION OF THE NEW IMAGE
USING THE PROVISIONAL CAMERA SOLUTION (STEP 67)

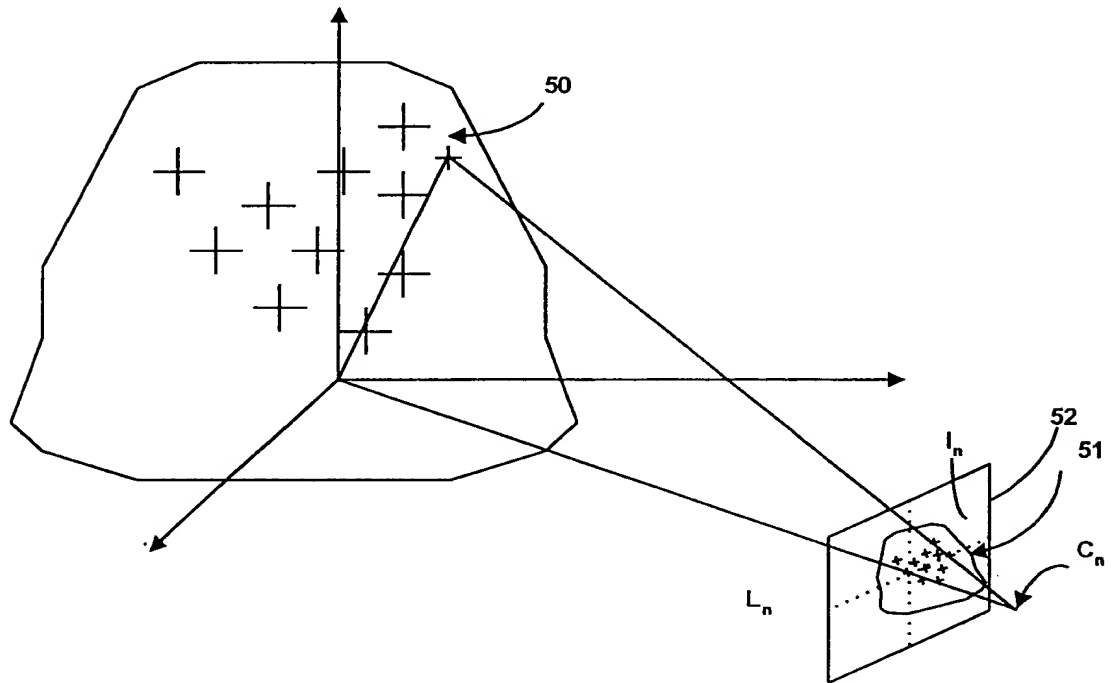


Fig 6A

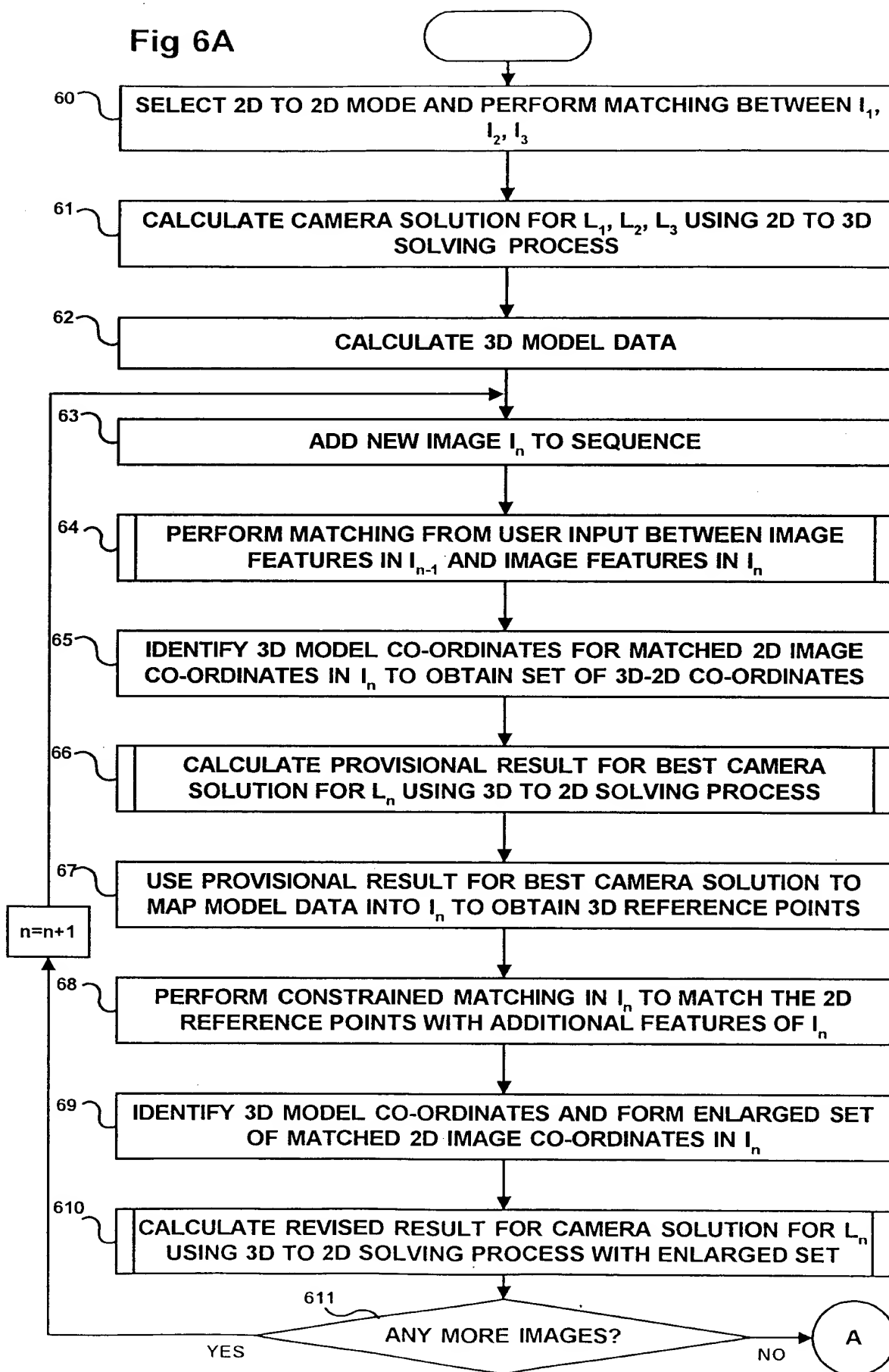


Fig 6B

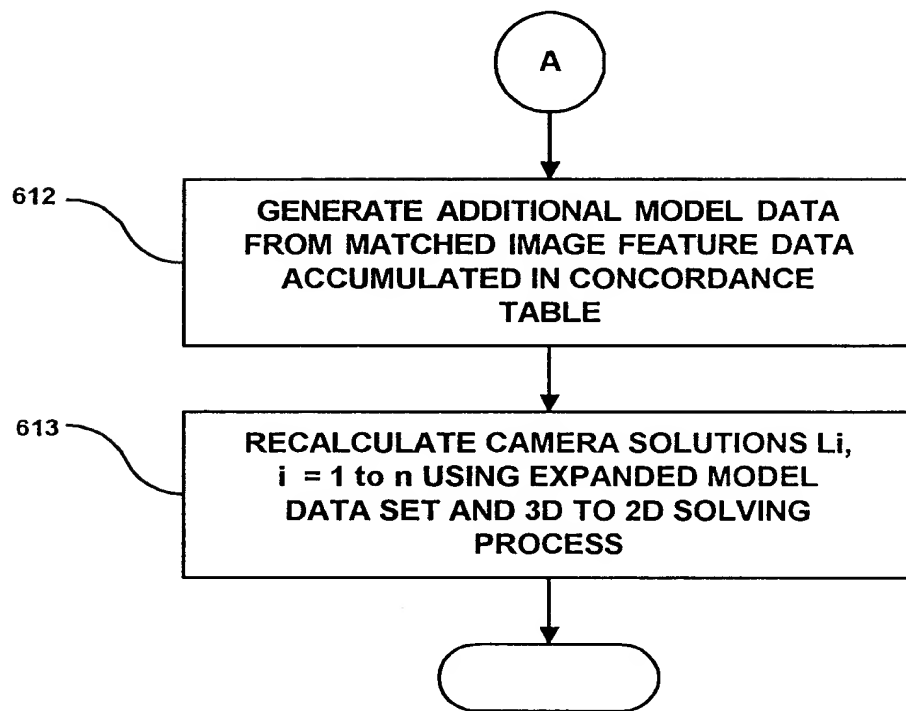
ADDITIONAL STEPS

Fig 7

PERFORMING MATCHING FROM USER INPUT BETWEEN
IMAGE FEATURES IN I_{n-1} AND I_n (STEP 64)

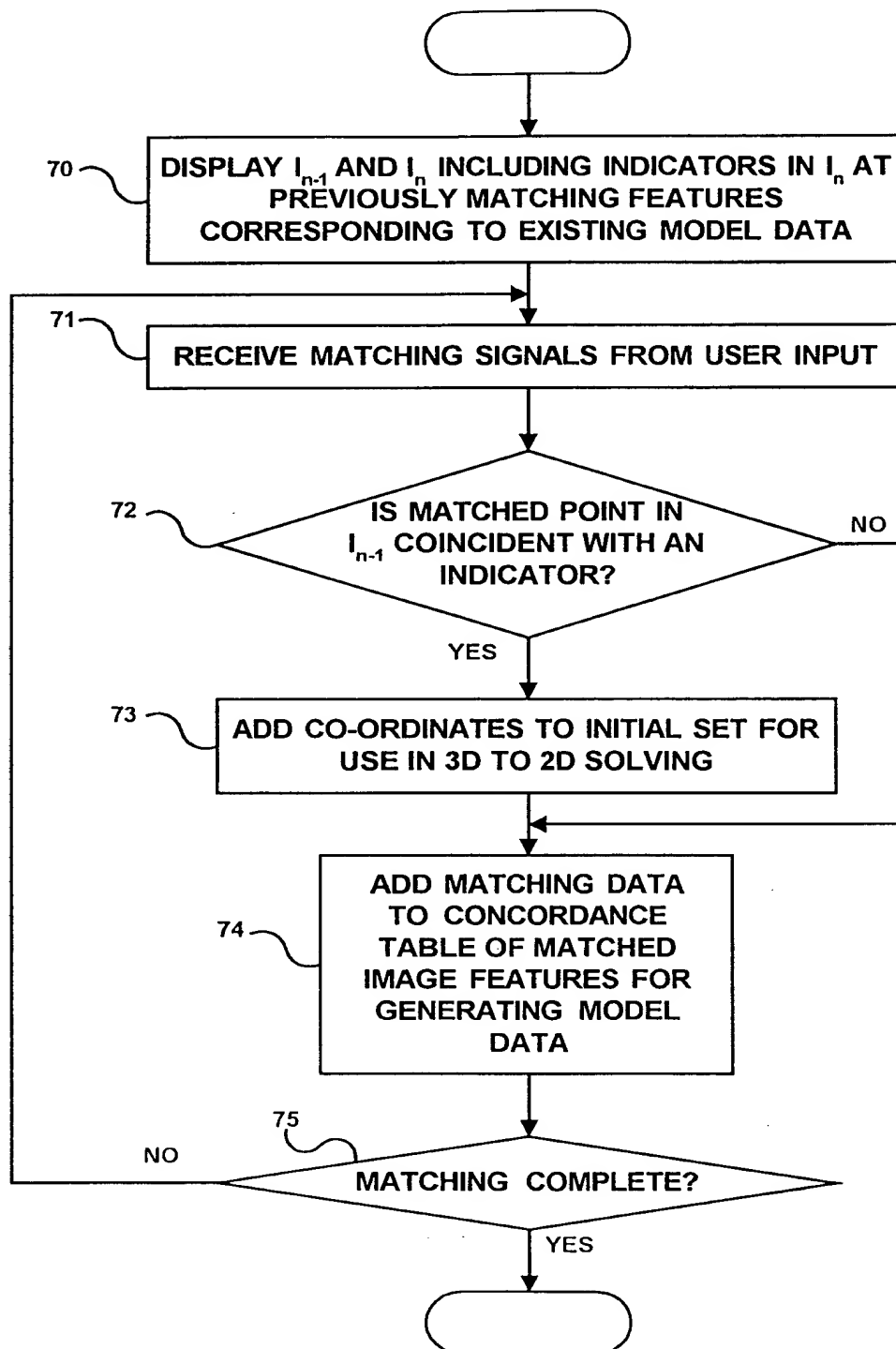


Fig 8

3-D TO 2-D SOLVING PROCESS (STEPS 66 AND 610)

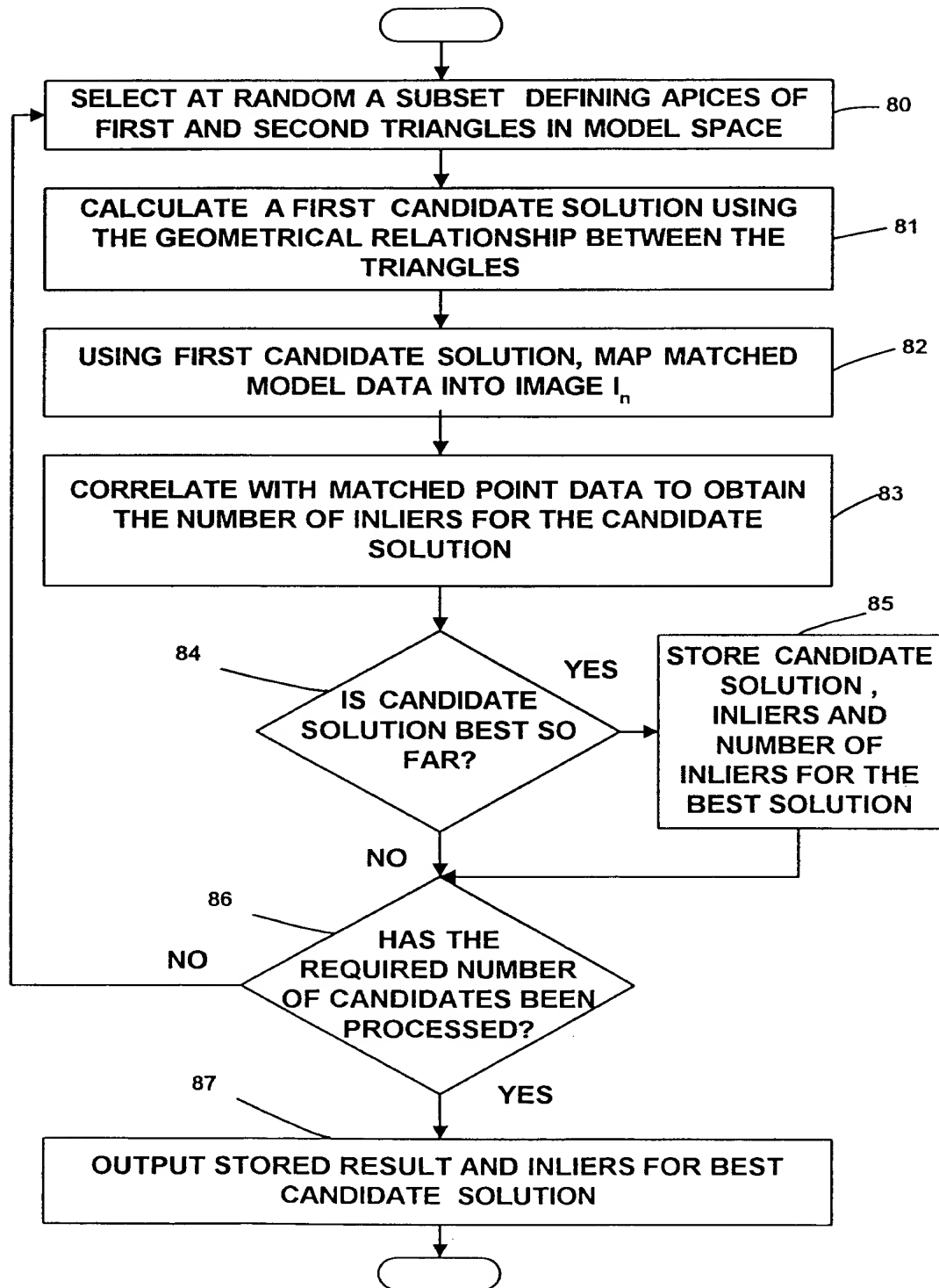


Fig 9

CALCULATING CANDIDATE 3D - 2D CAMERA SOLUTION

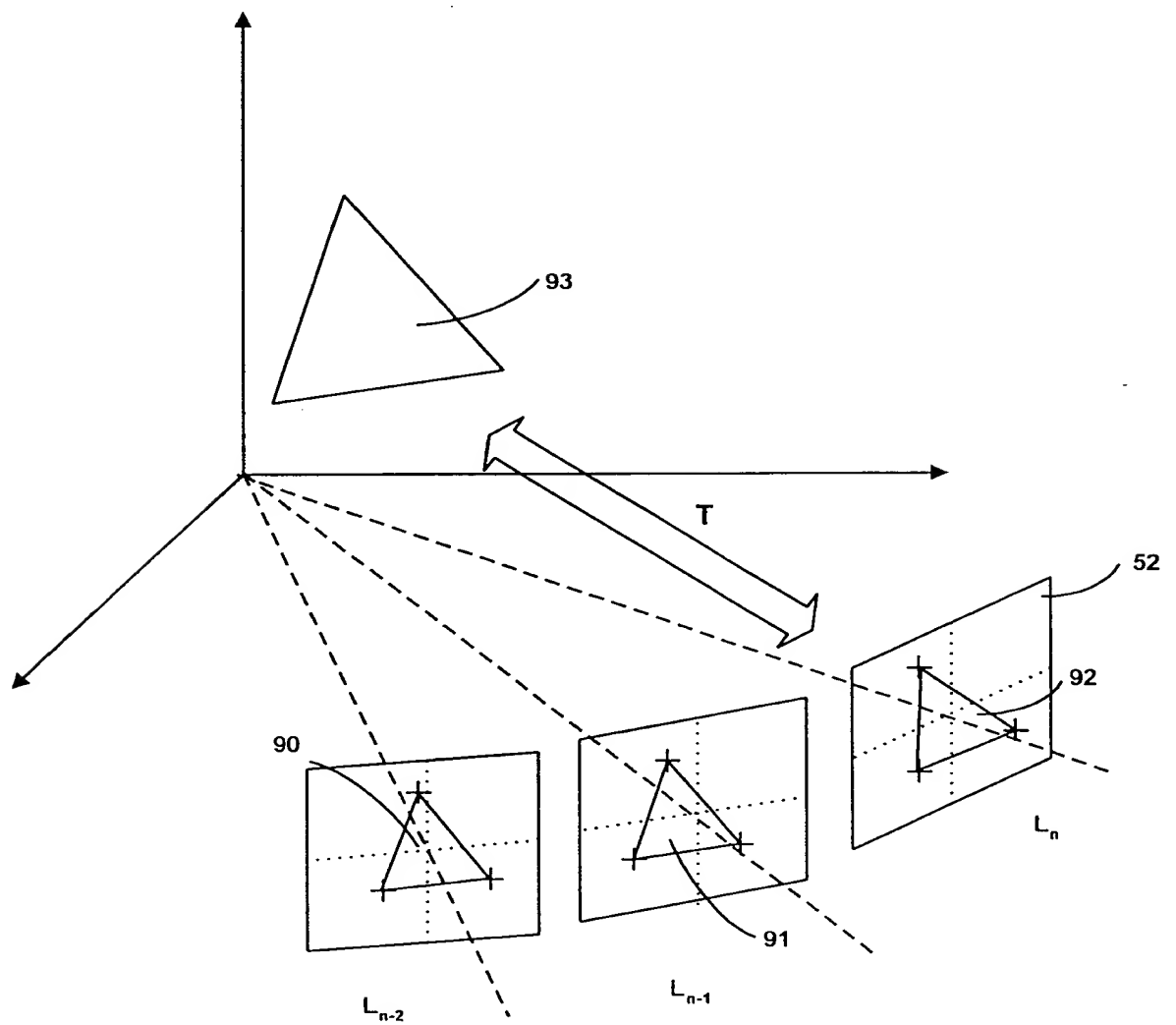


Fig 10

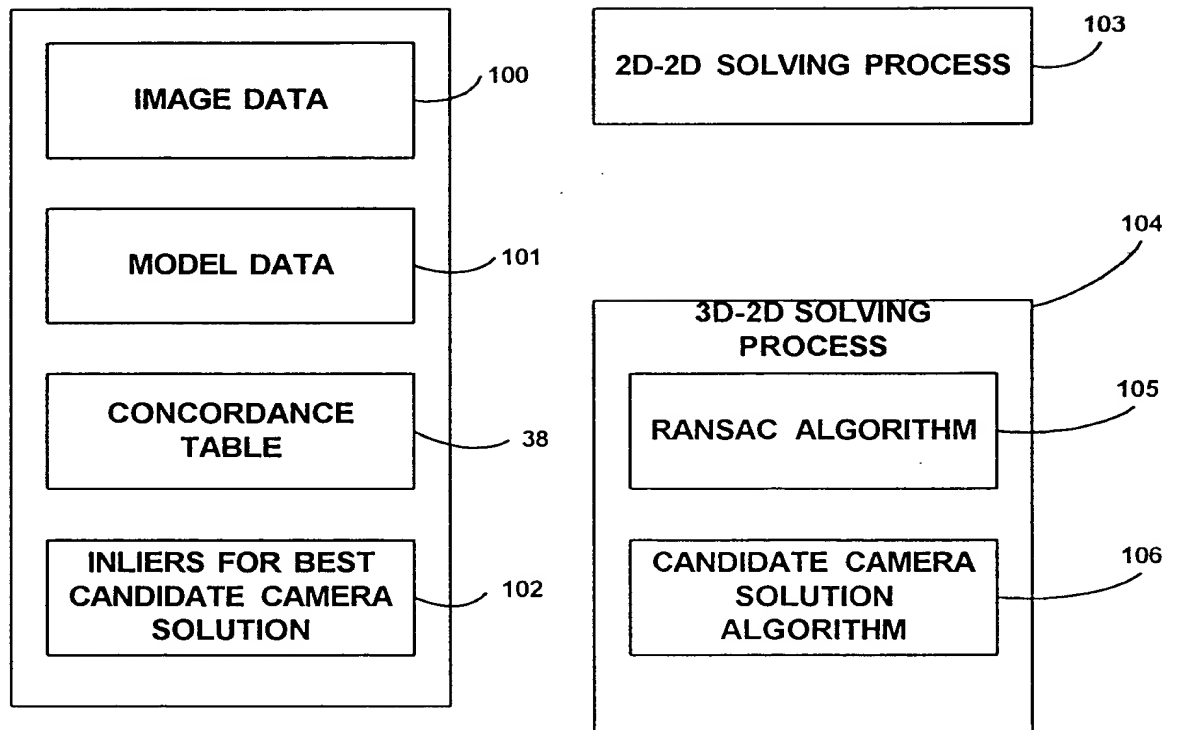


Fig 11

**MODEL WINDOW SHOWS FEATURE MISSING FROM
MODEL IMAGE WHEN COMPARED WITH CAMERA IMAGE**

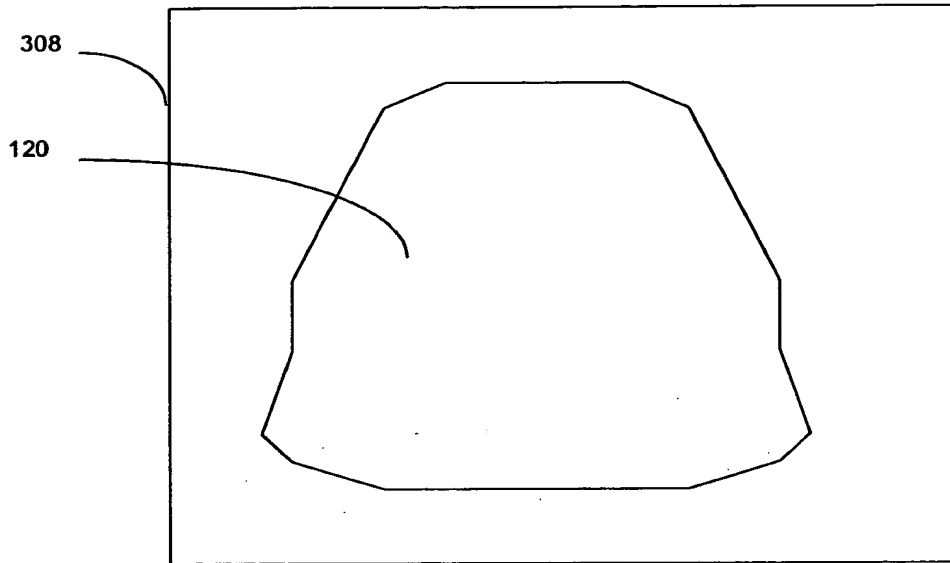


Fig 12

**IN CAMERA IMAGE WINDOW ,USER SELECTS NEW
IMAGE POINT FOR ADDITION TO MODEL**

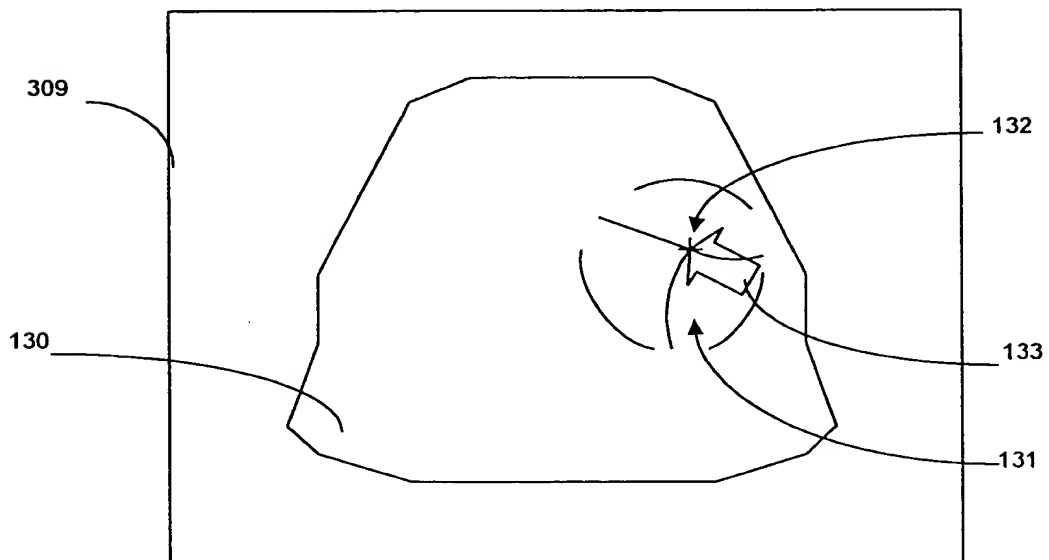
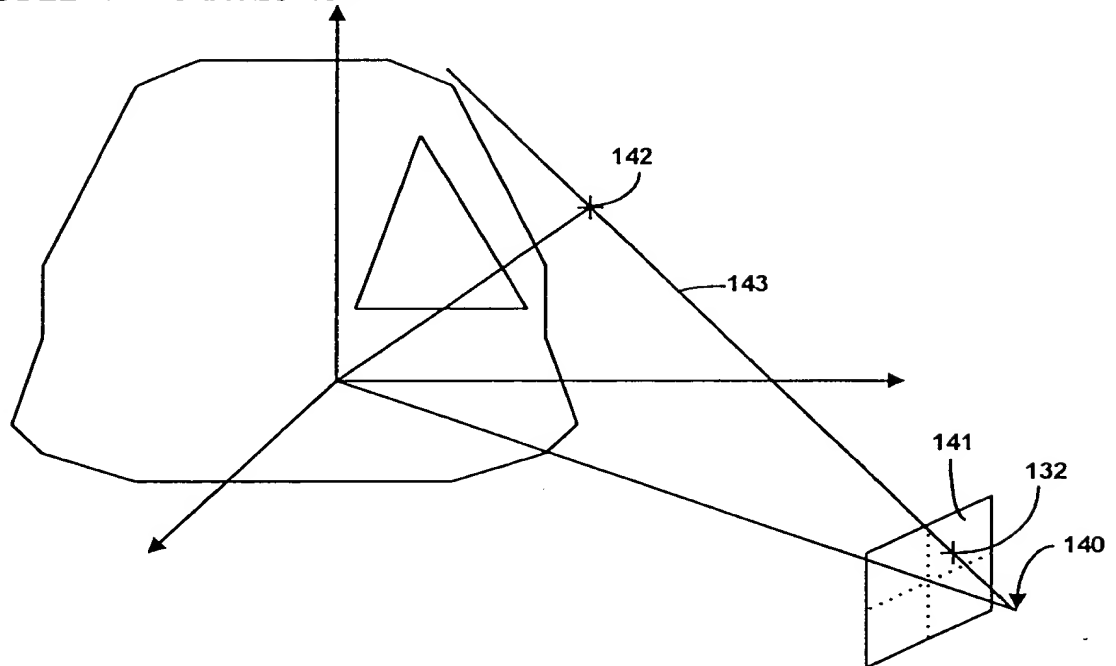


Fig 13

MODEL CALCULATES LOCUS OF NEW MODEL POINT

**Fig 14**

IN MODEL WINDOW, MODEL IMAGE IS DISPLAYED FROM A DIFFERENT VIEWING ANGLE AND USER MOVES NEW MODEL POINT TO REQUIRED POSITION, CONSTRAINED BY CALCULATED LOCUS

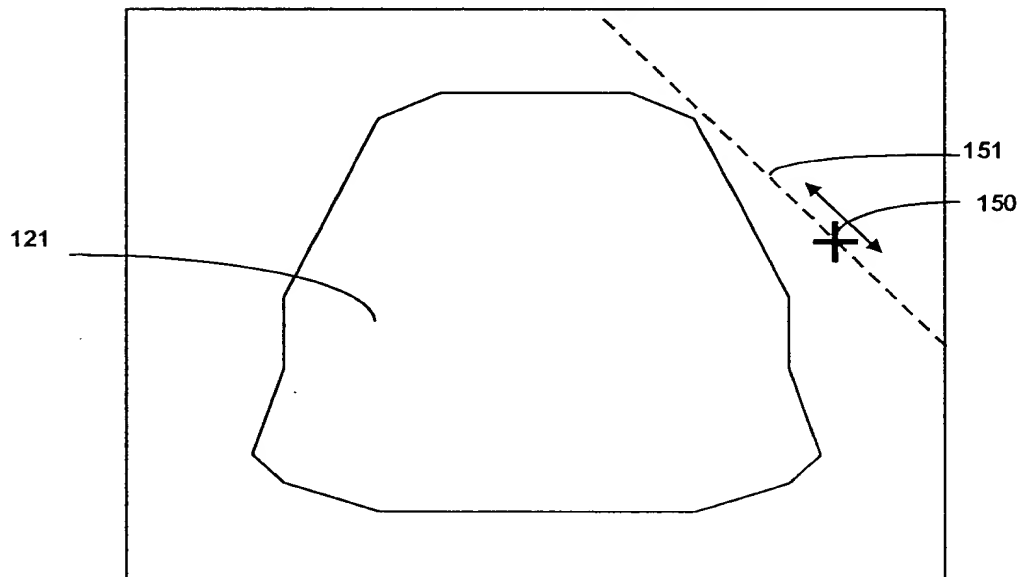
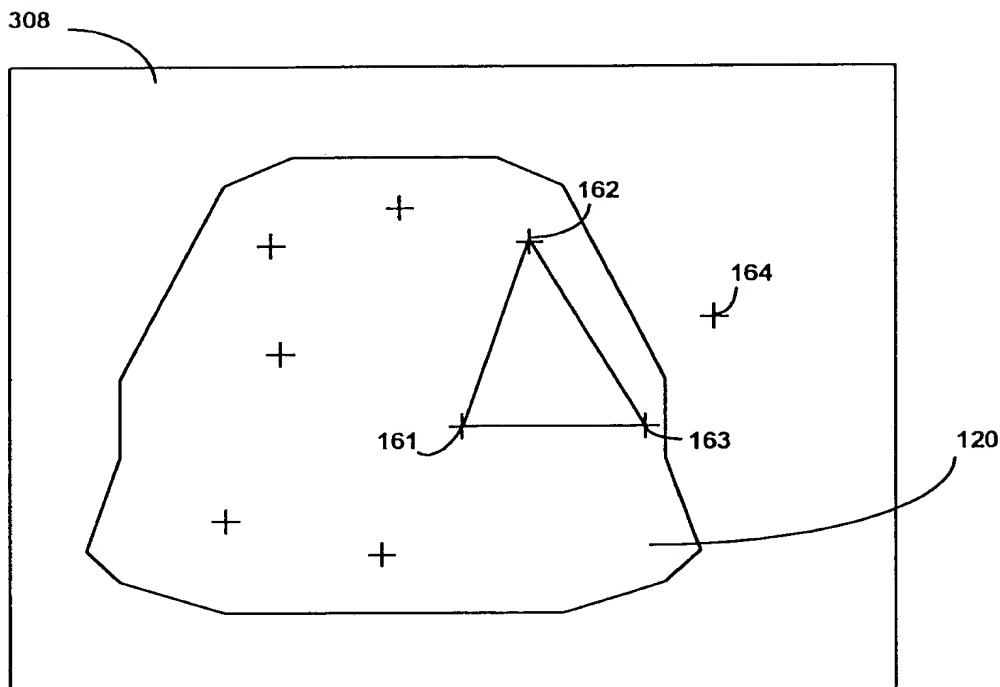


Fig 15

IN MODEL WINDOW, USER SELECTS EXISTING MODEL
POINTS FOR CONNECTION TO NEW POINT

**Fig 16**

IN MODEL WINDOW, MODEL IMAGE NOW SHOWS NEW
MODEL POINT AND FACETS

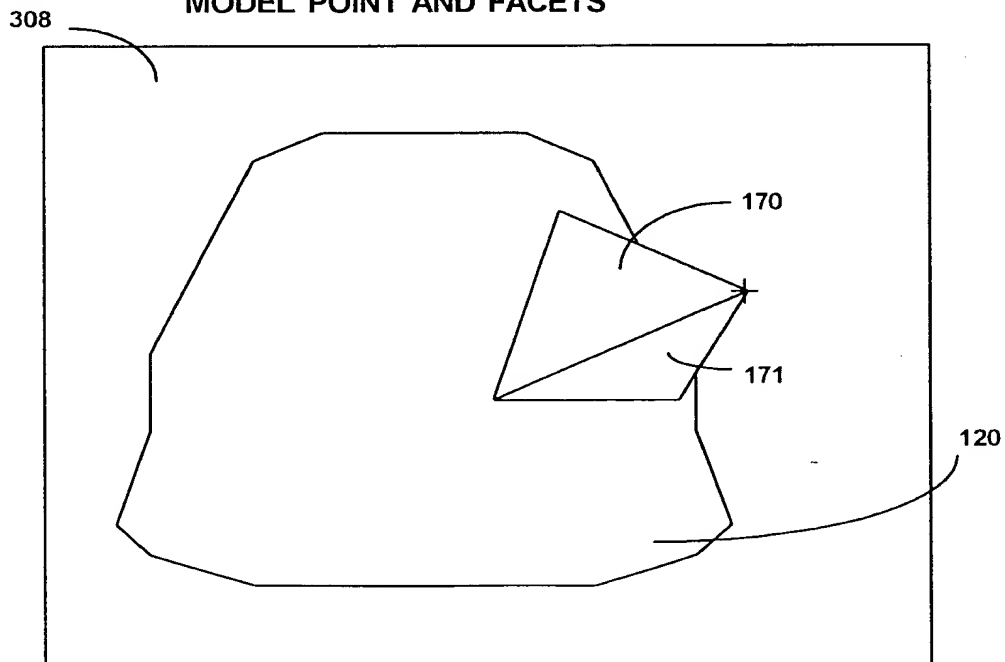


Fig 17

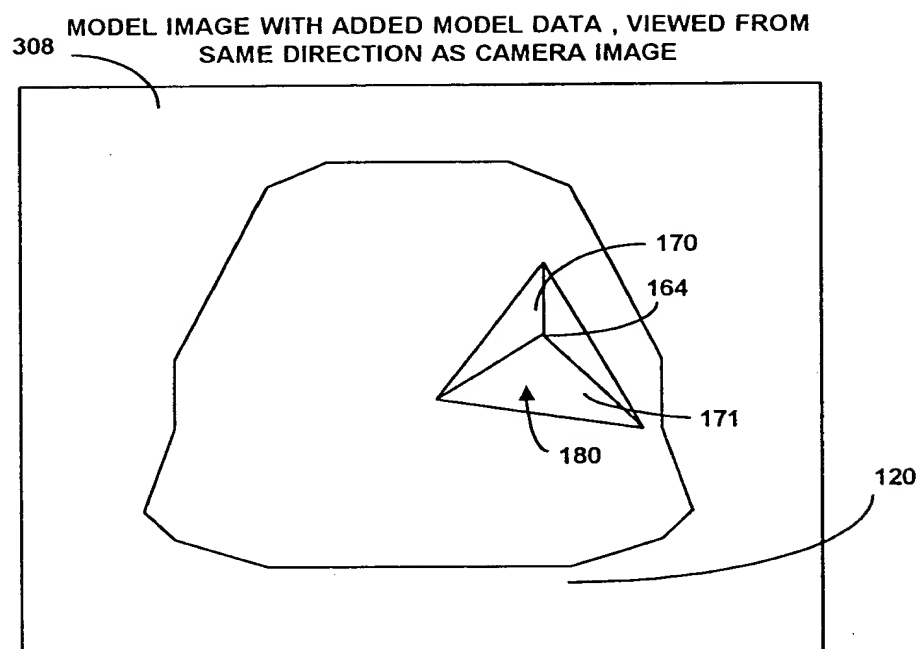


FIG. 18

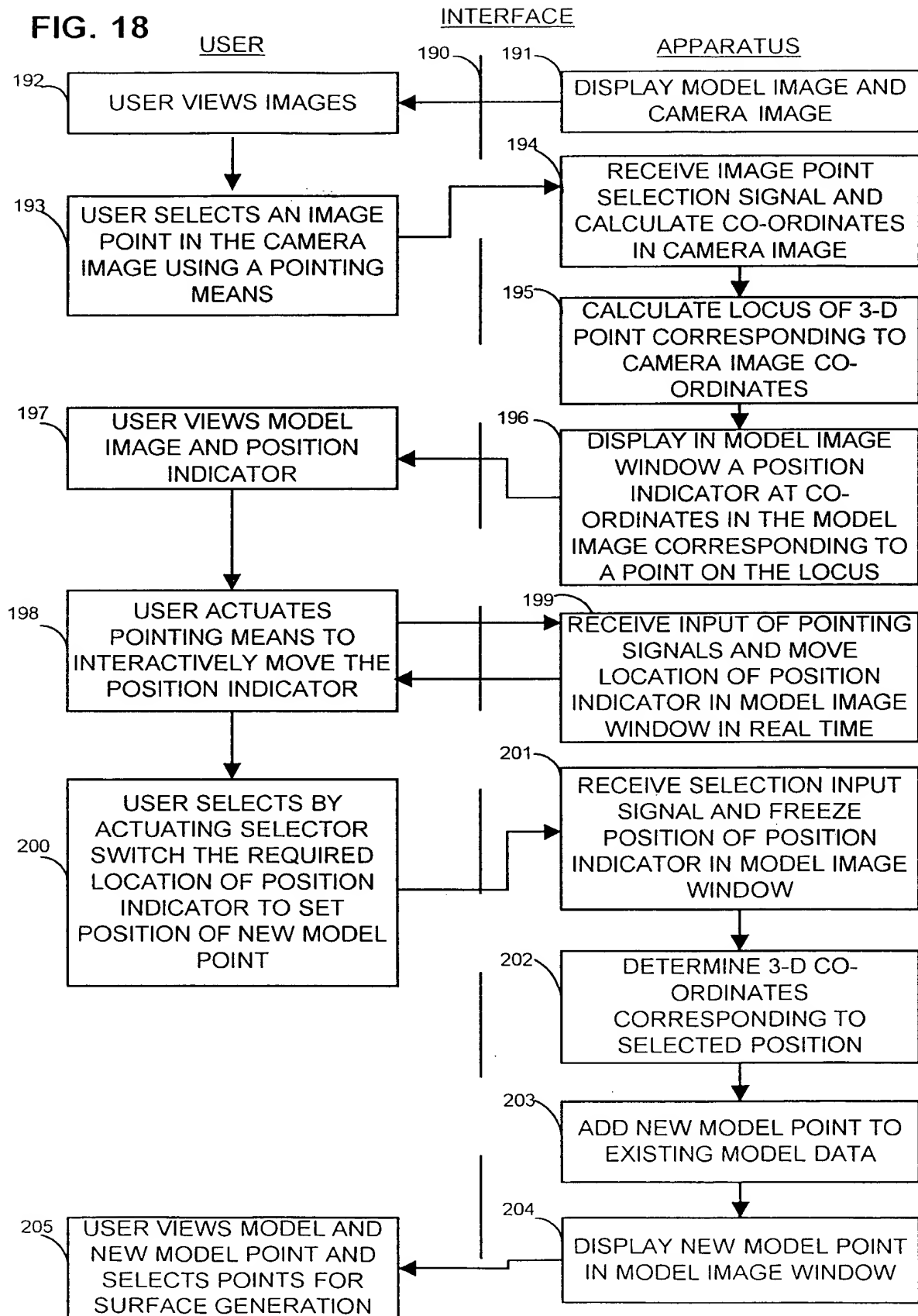


Fig 19

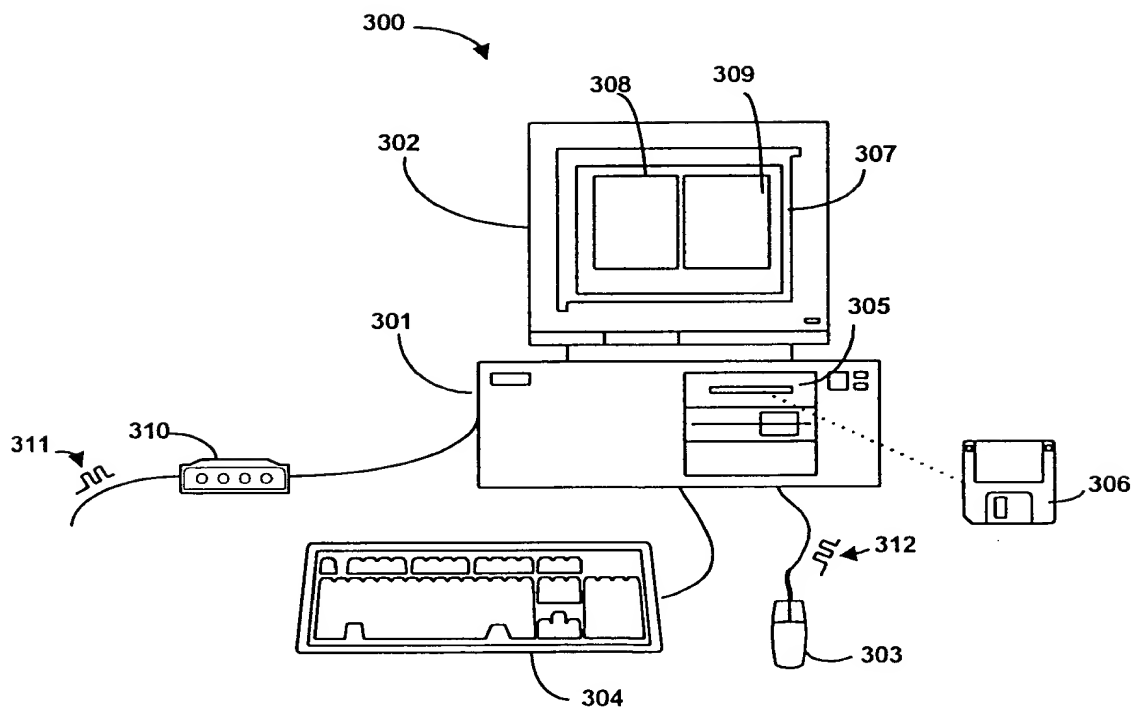


Fig 20

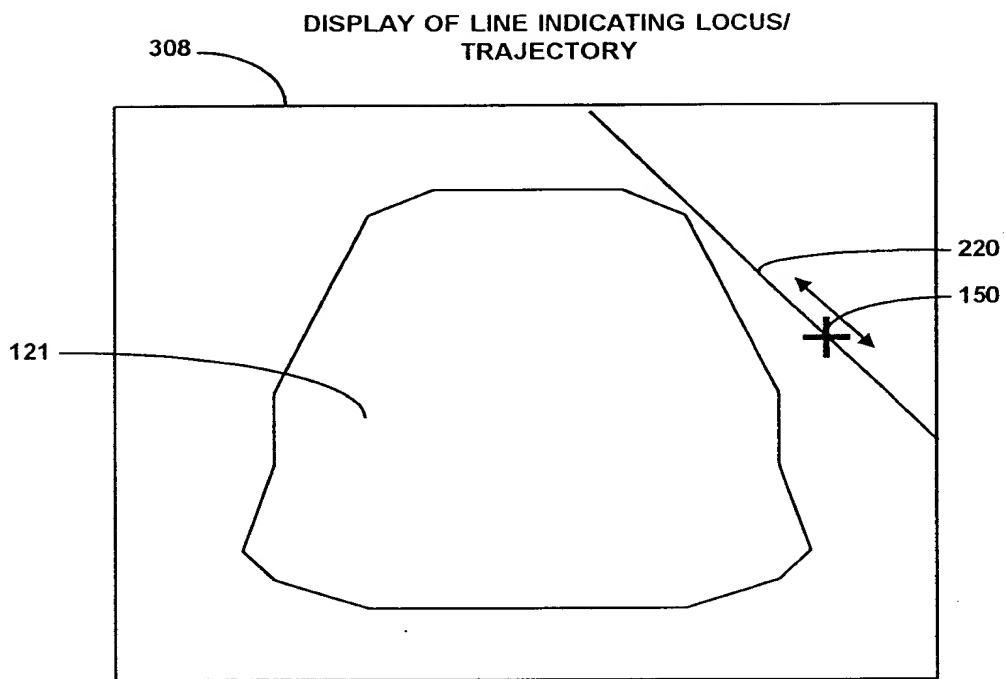


Fig 21

ADDING A NEW MODEL POINT

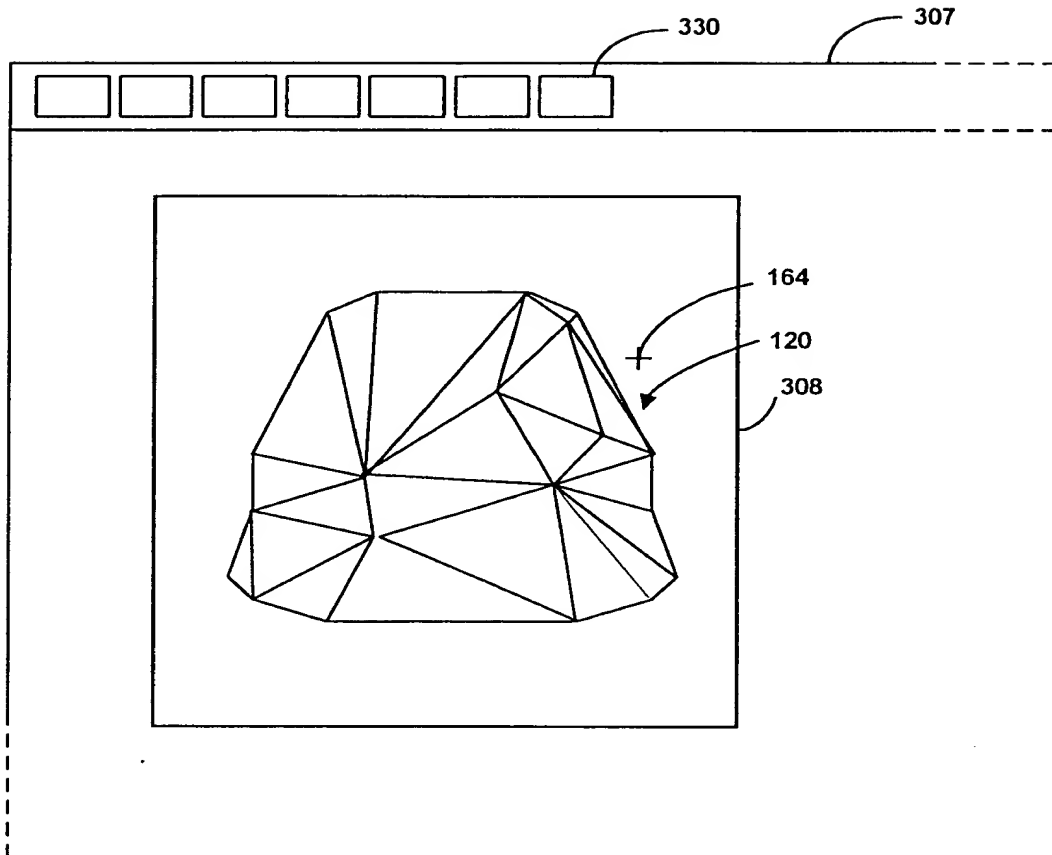
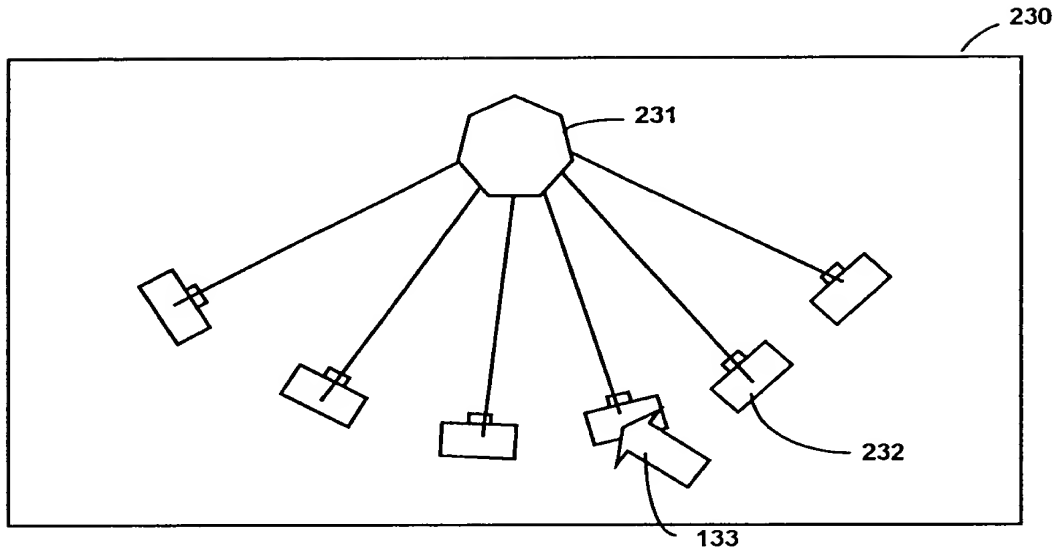
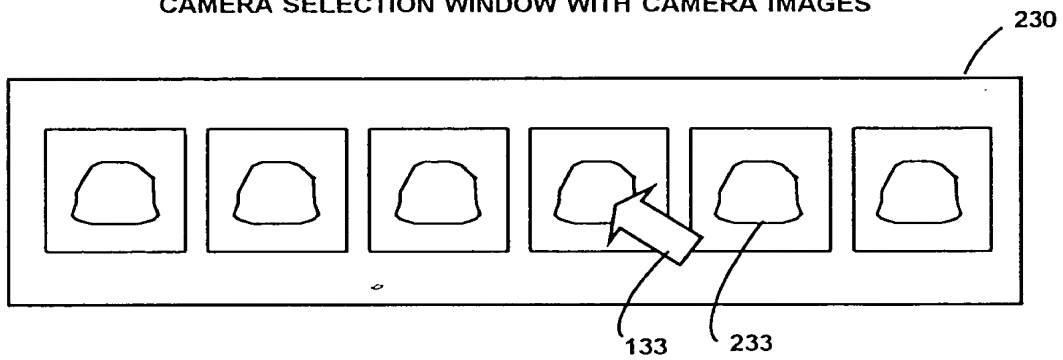


Fig 22A

CAMERA SELECTION WINDOW WITH CAMERA ICONS

**Fig 22B**

CAMERA SELECTION WINDOW WITH CAMERA IMAGES



CALCULATE FACET INTERSECTED BY RAY THROUGH CAMERA POSITION AND ADDED MODEL POINT

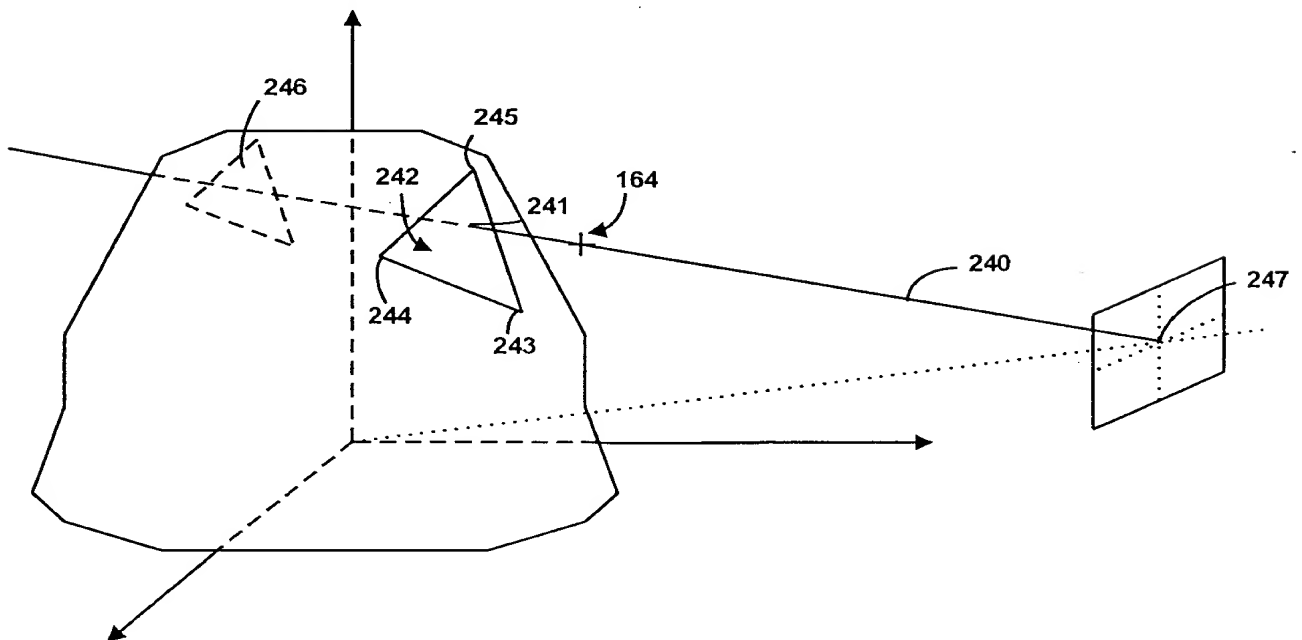


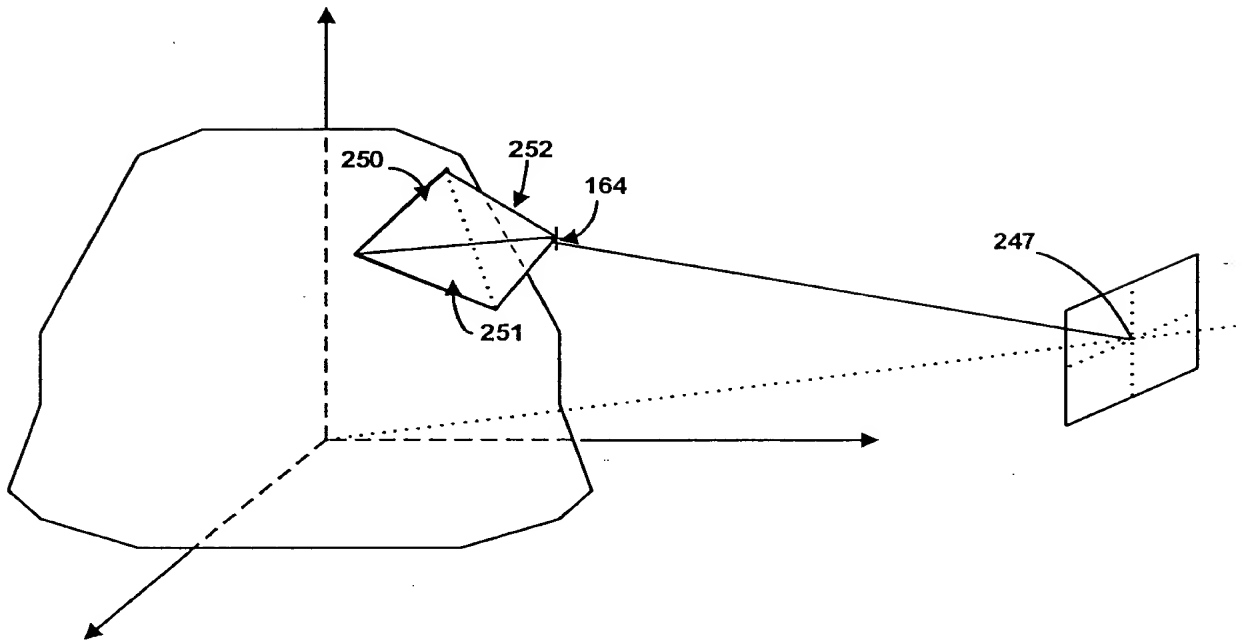
Fig 24**SUBDIVIDE FACET TO INCLUDE ADDED MODEL POINT**

Fig 25

DISPLAY NEW MODEL INCLUDING ADDED POINT AND NEW FACETS

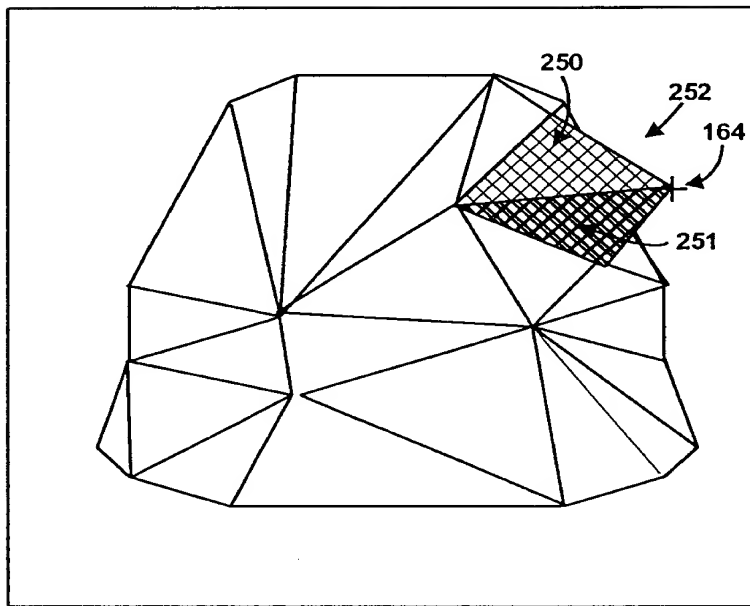


FIG 26

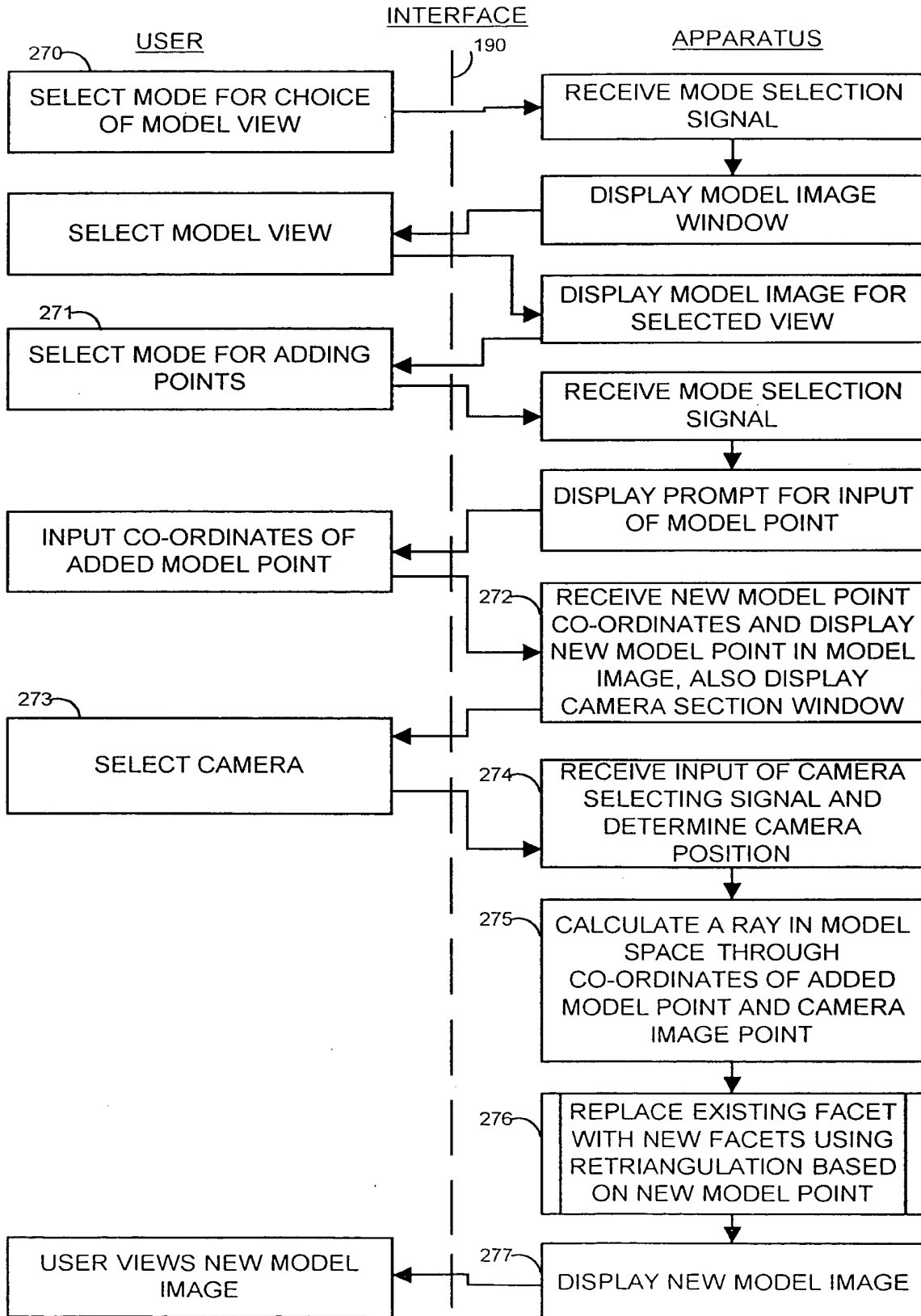


FIG 27

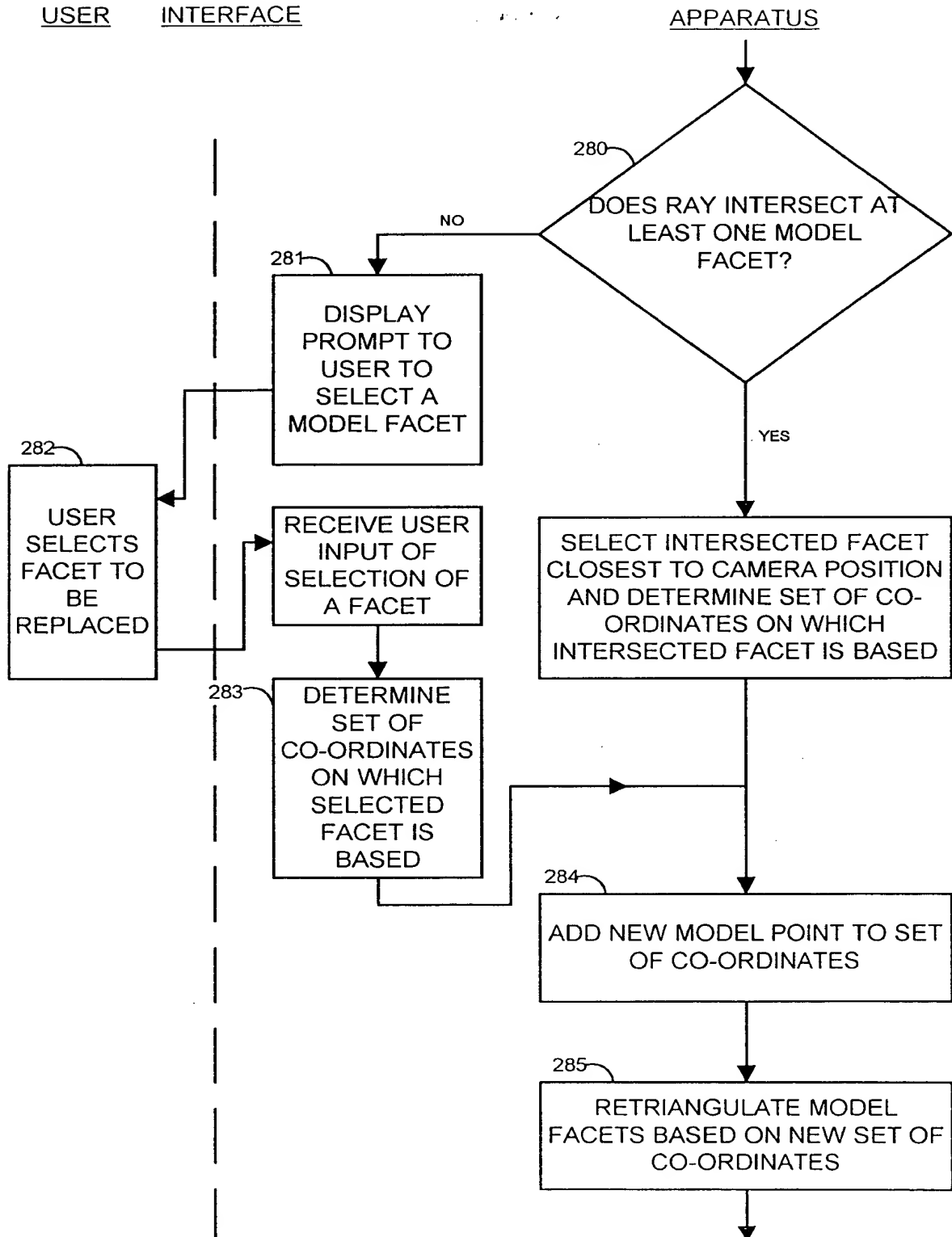
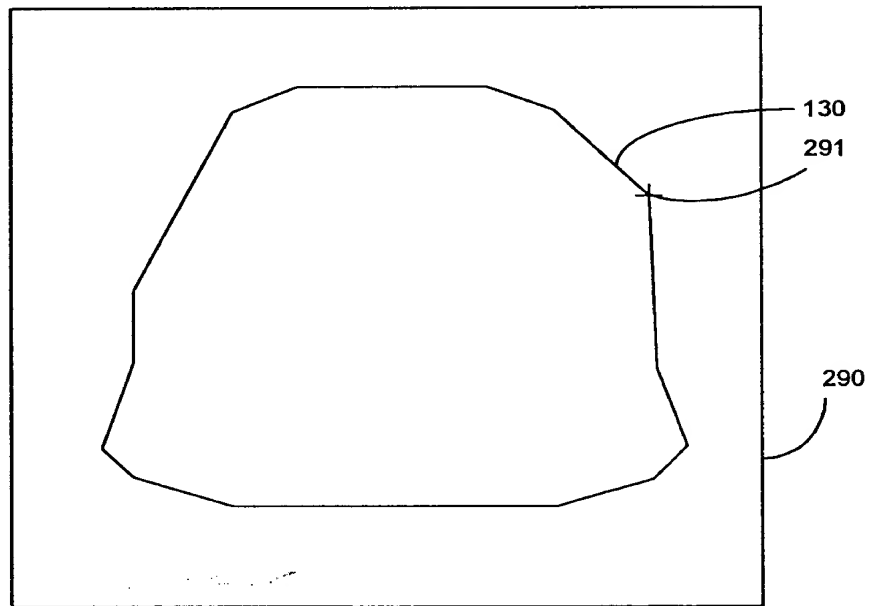
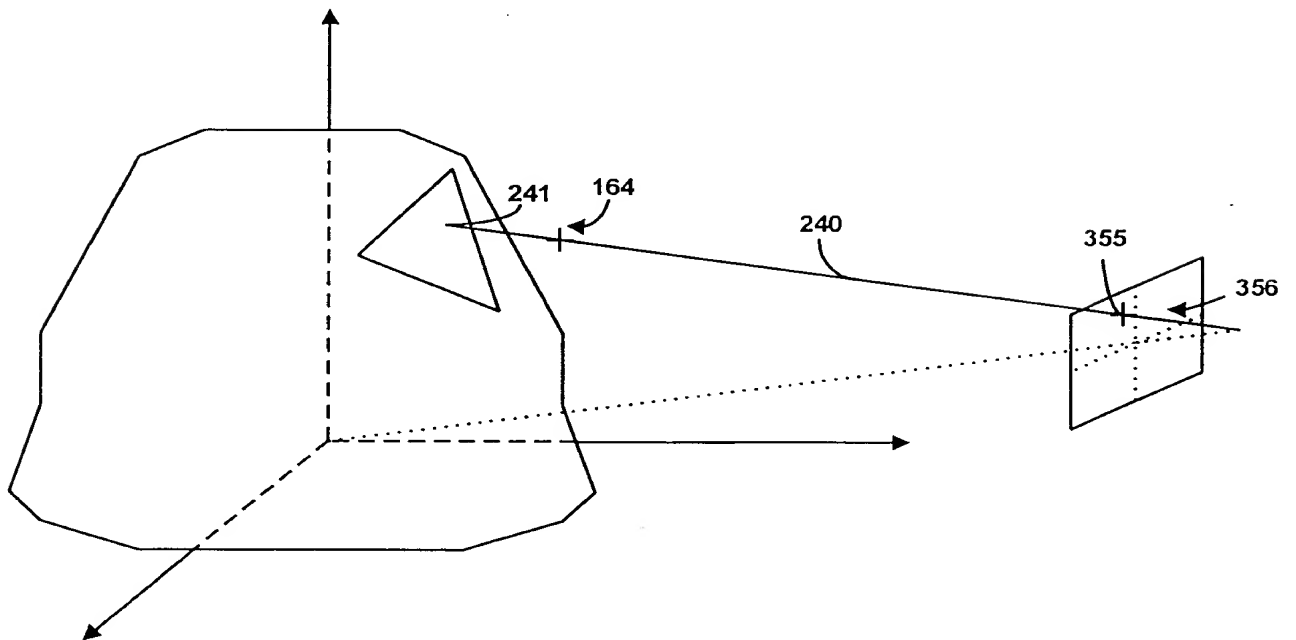
GENERATING NEW FACETS

Fig 28

**IDENTIFY COORDINATES IN CAMERA IMAGE OF
FEATURE CORRESPONDING TO ADDED MODEL POINT**



CALCULATE FACET INTERSECTED BY RAY THROUGH CAMERA IMAGE POINT AND ADDED MODEL POINT



28/55
FIG 30

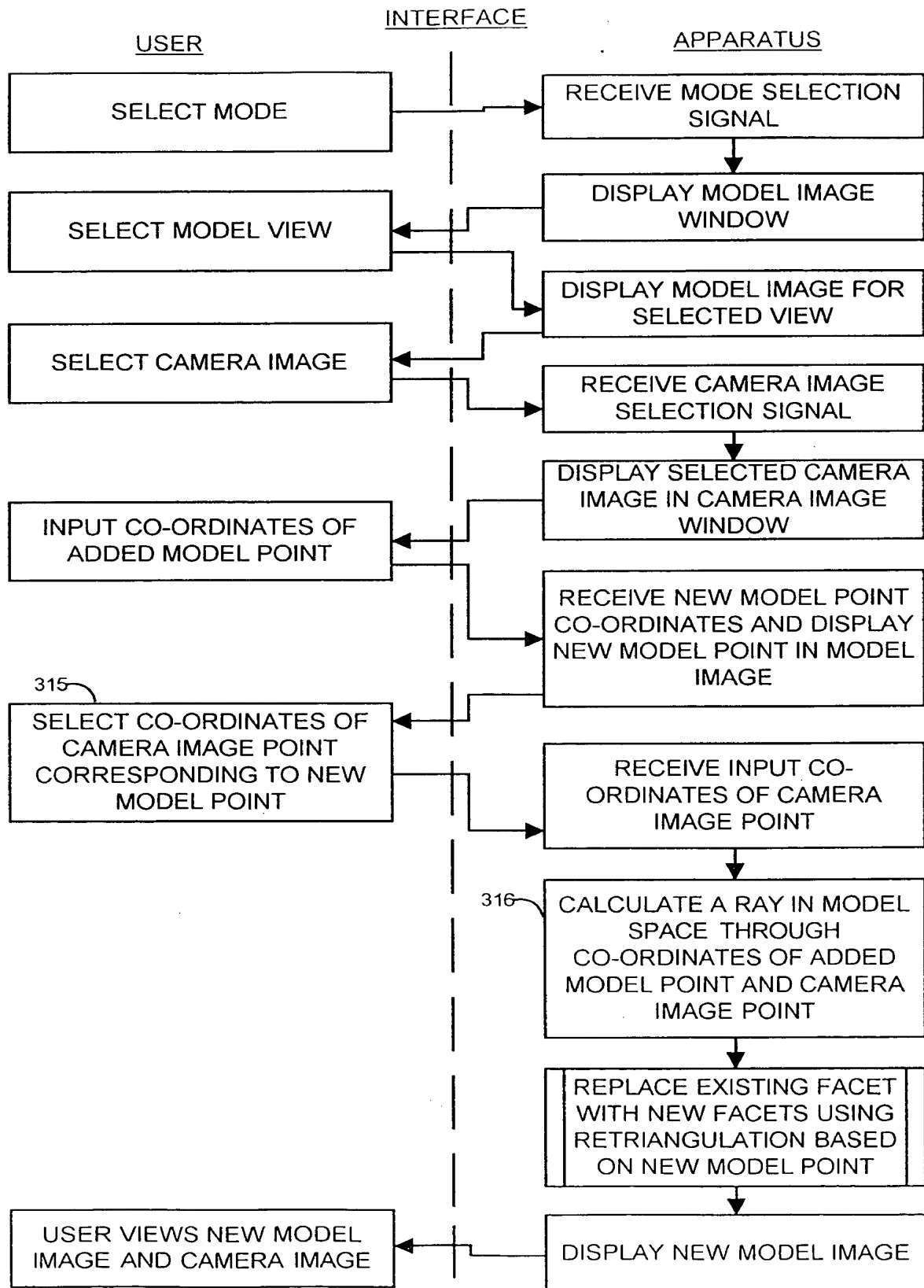


Fig 31

CAMERA POSITIONS IN RELATION TO OBJECT

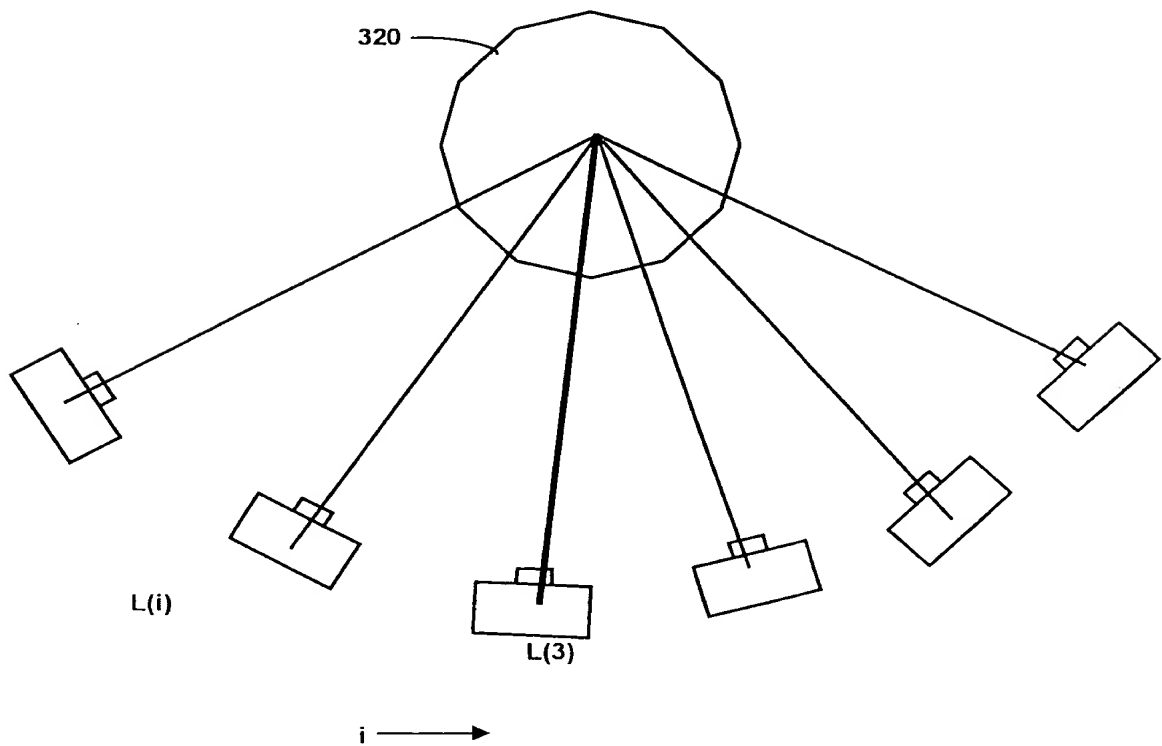


Fig 32

IMAGE SELECTION USING THUMBNAIL CAMERA IMAGE ICONS

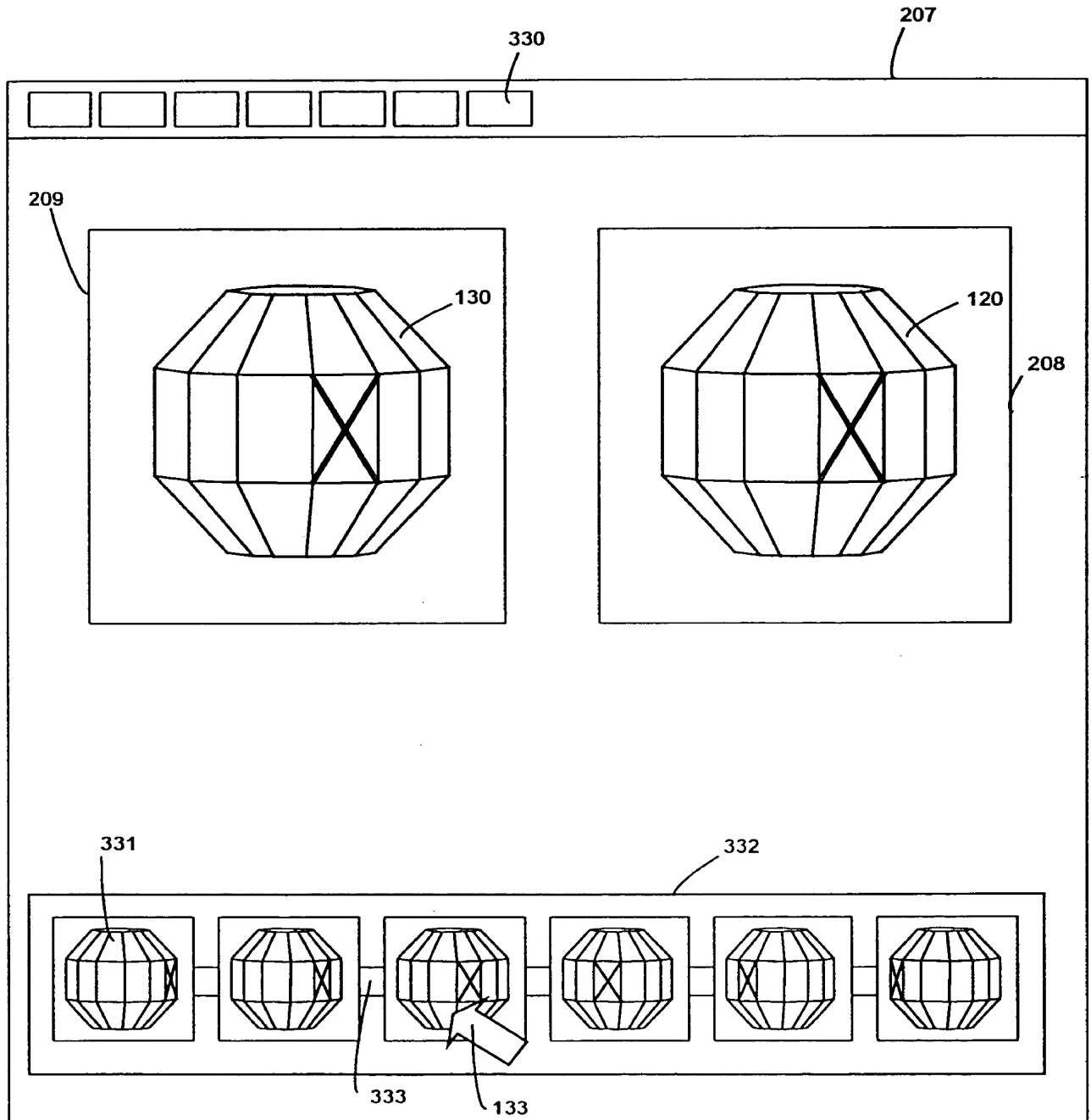


FIG 33

INTERFACE

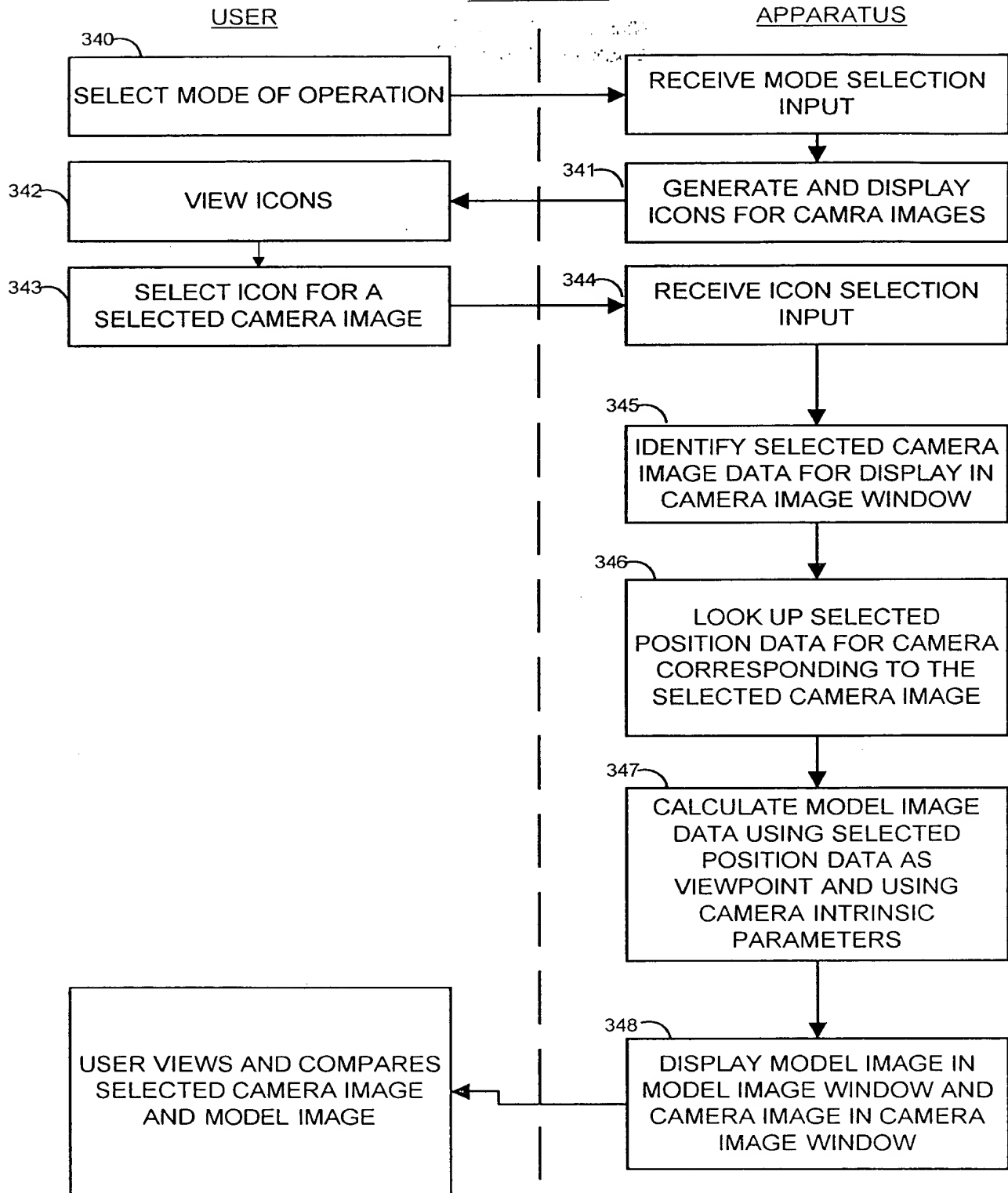
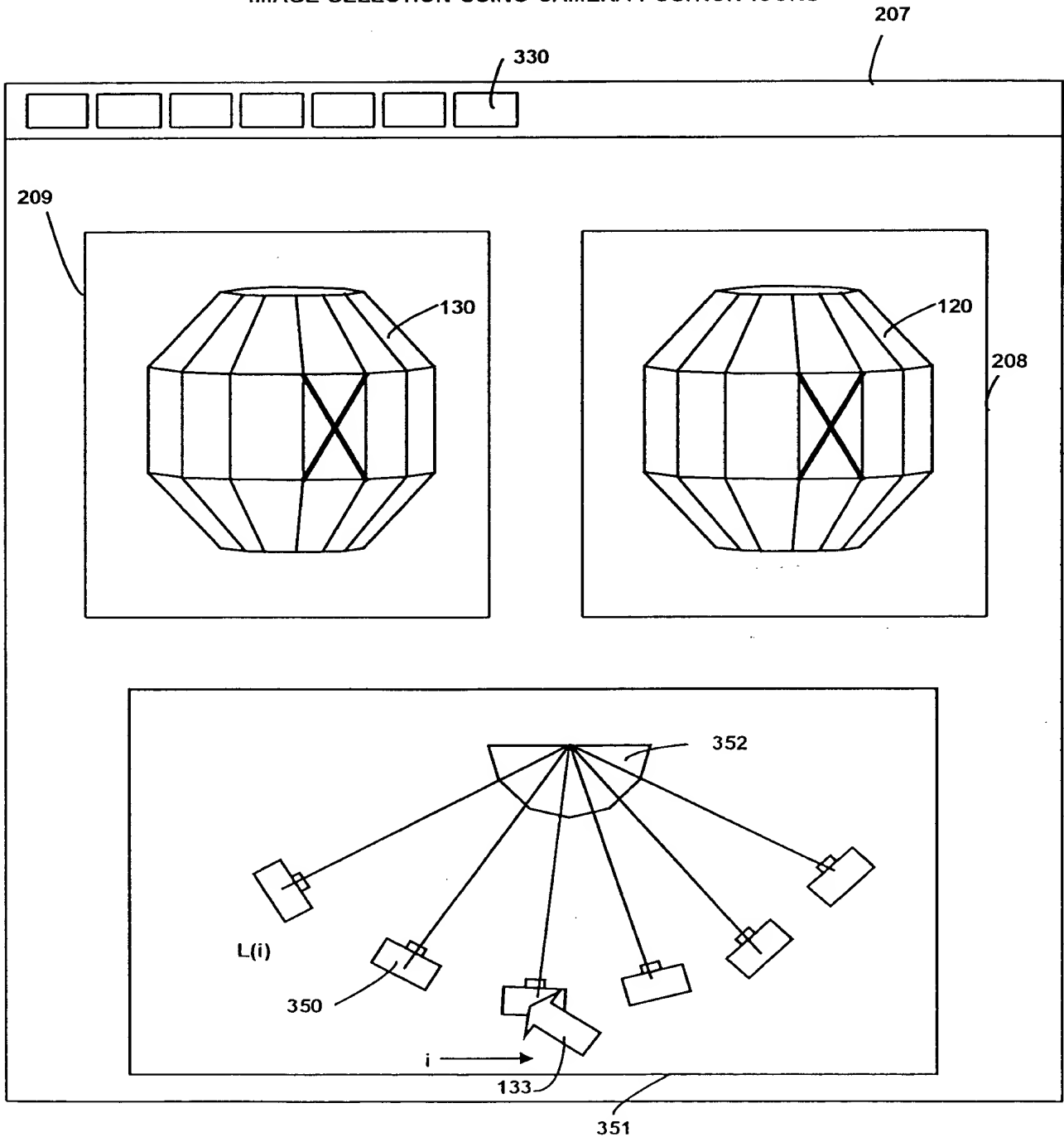


Fig 34

IMAGE SELECTION USING CAMERA POSITION ICONS



33/55
FIG 35
INTERFACE

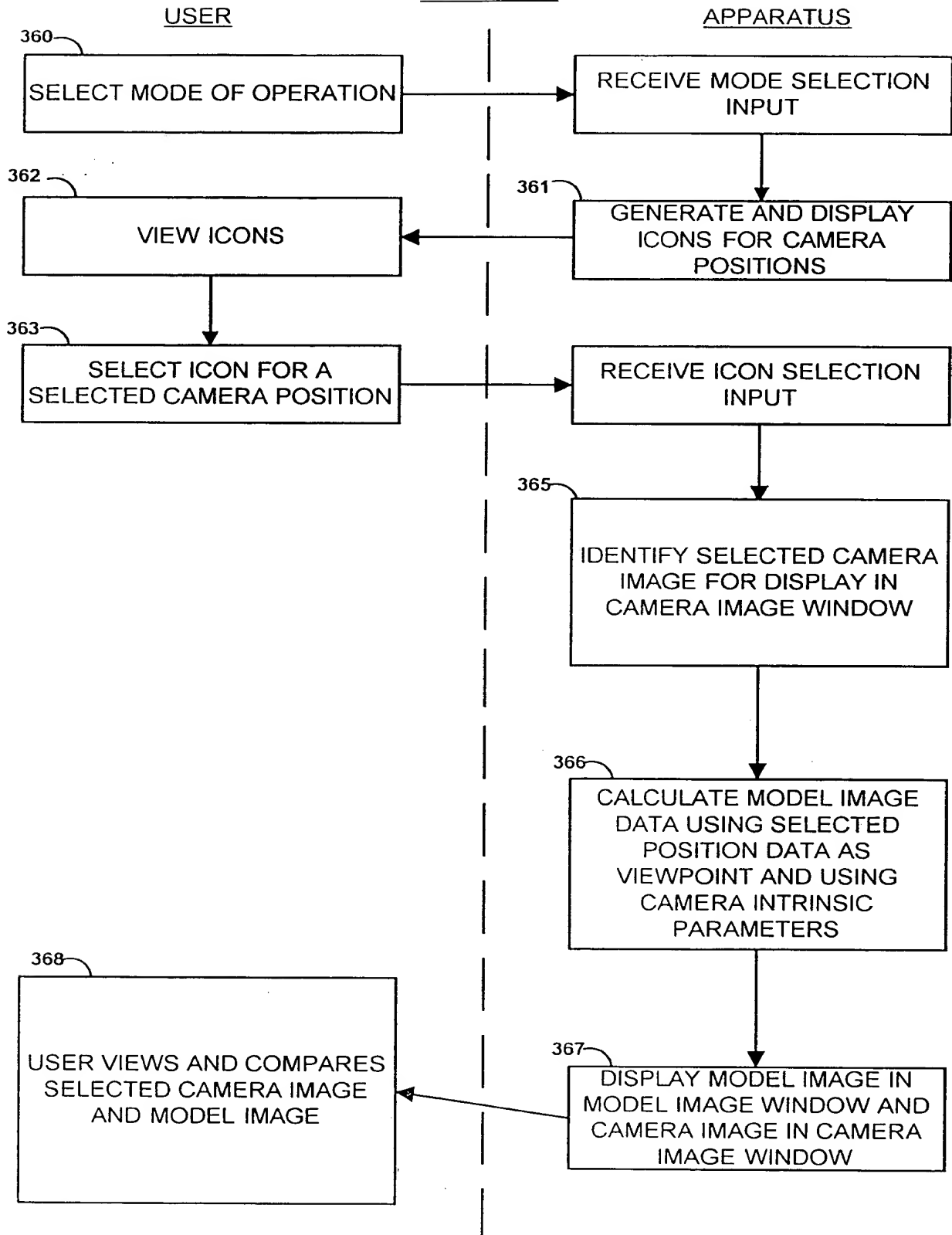


Fig 36

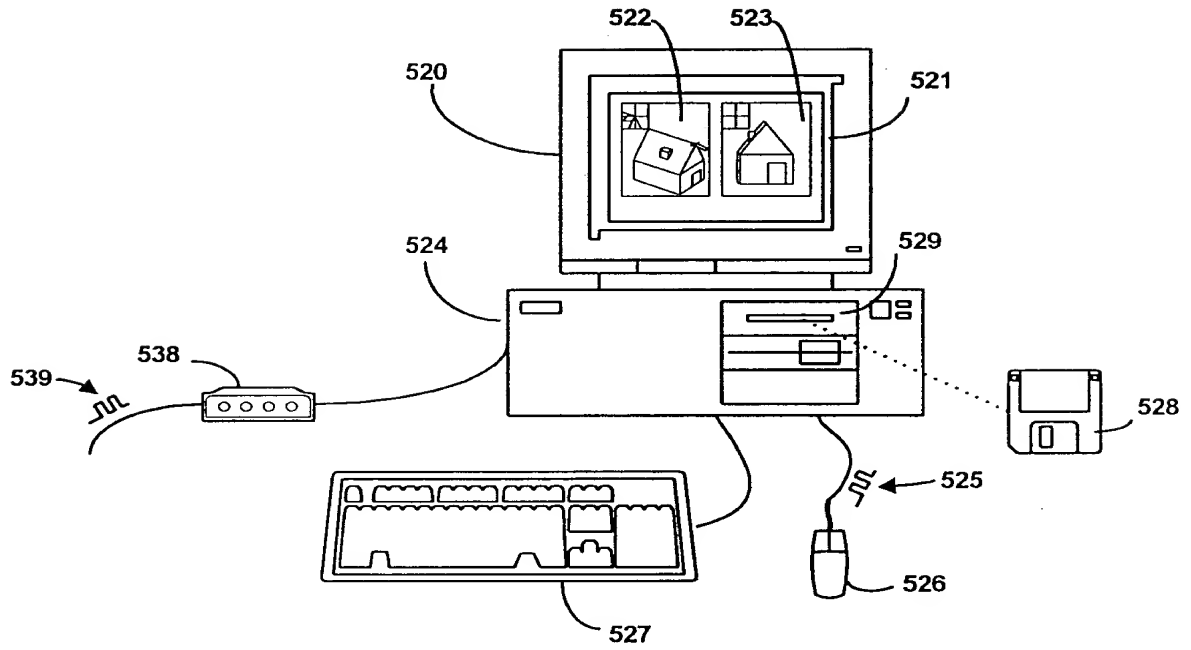


Fig 37

FIRST PHASE

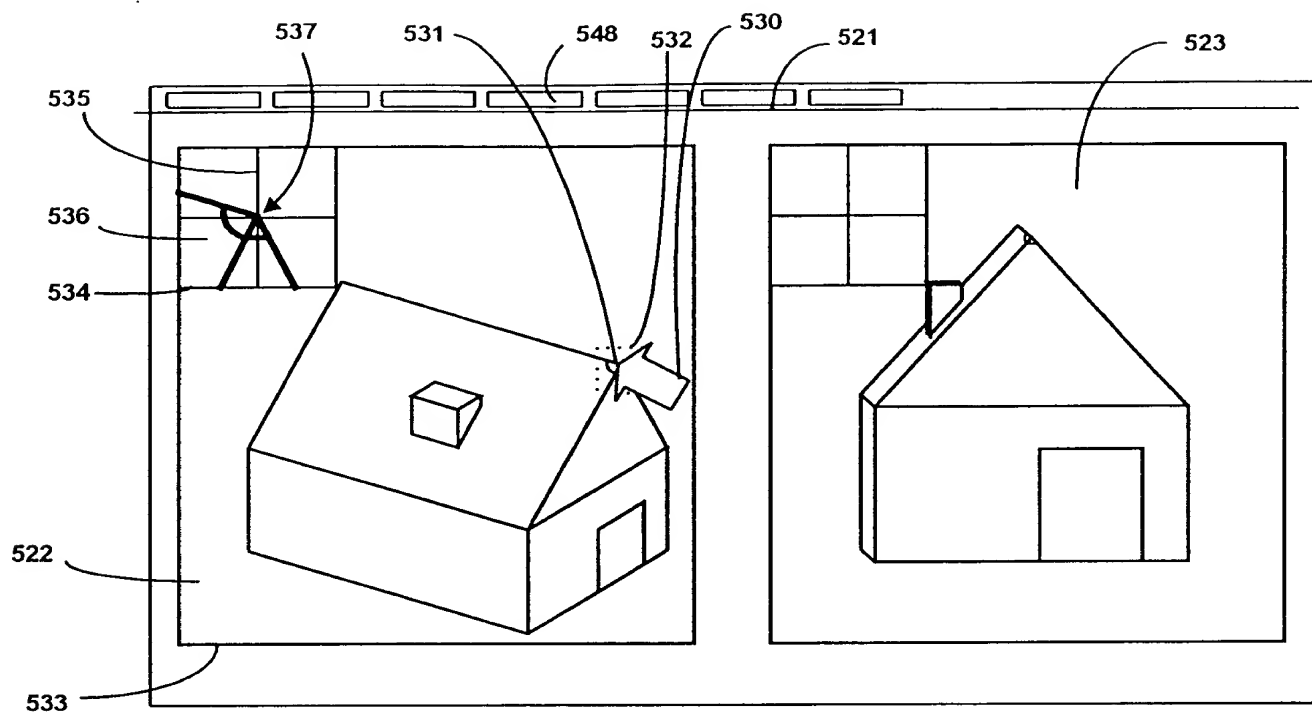
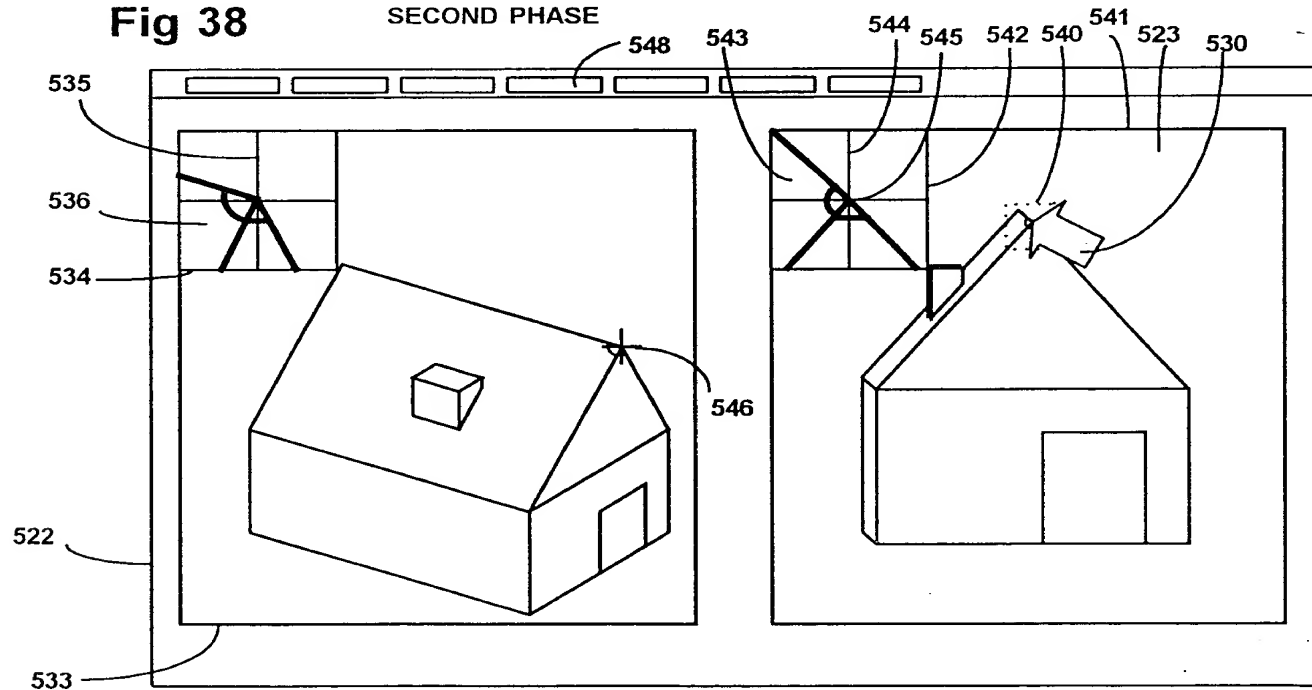


Fig 38

SECOND PHASE



FIRST PHASE

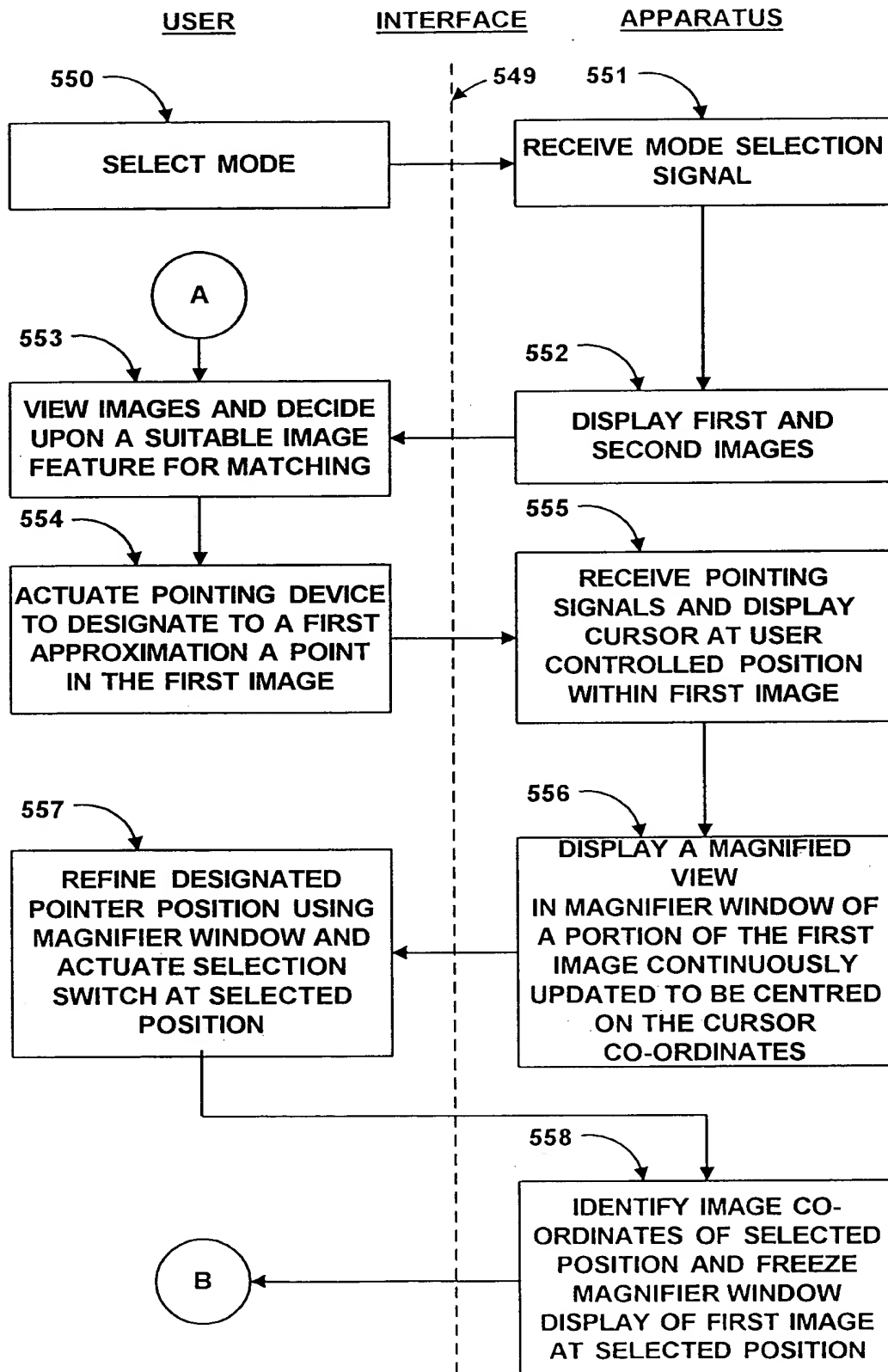


Fig 40

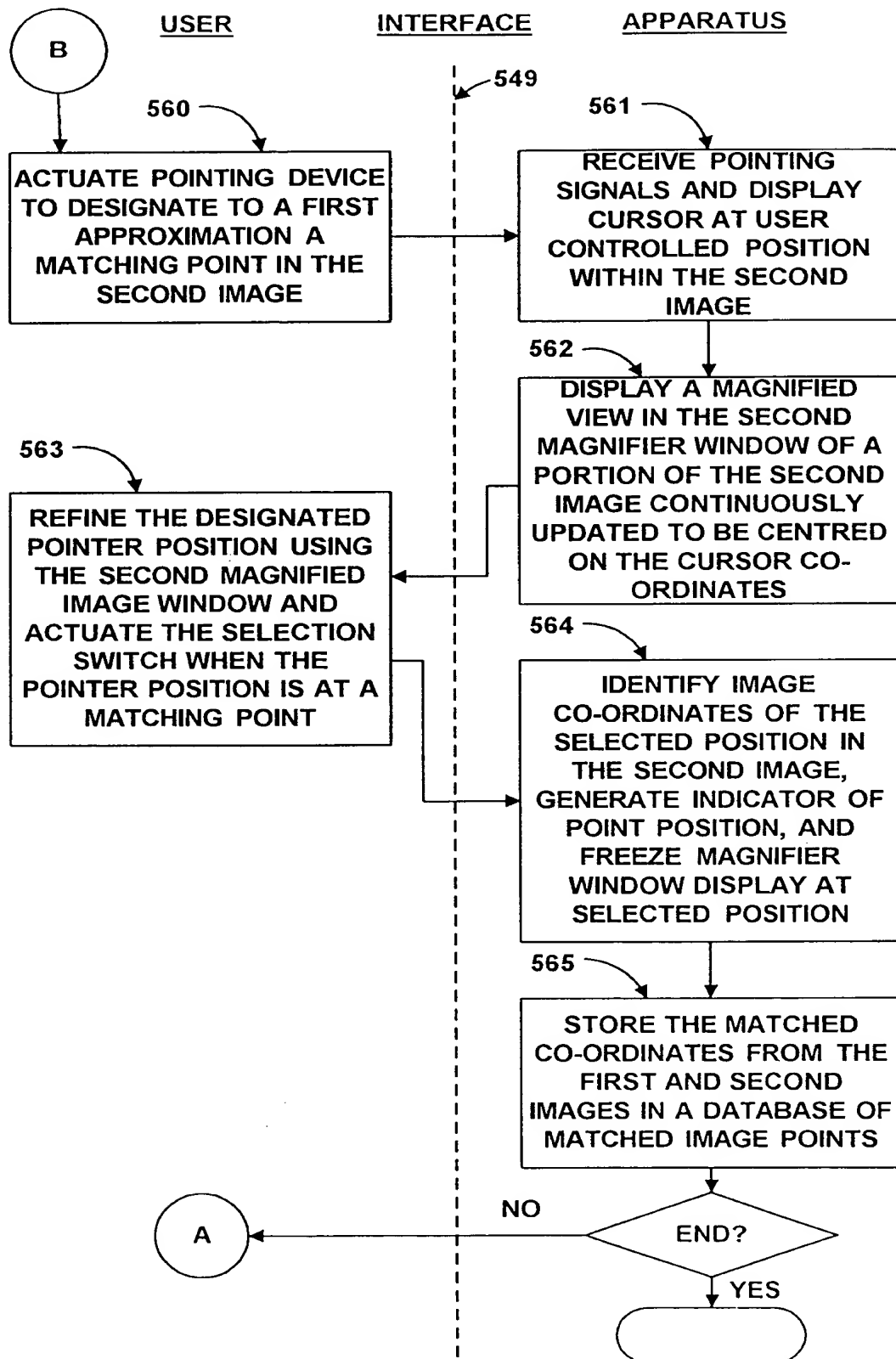
SECOND PHASE

Fig 41

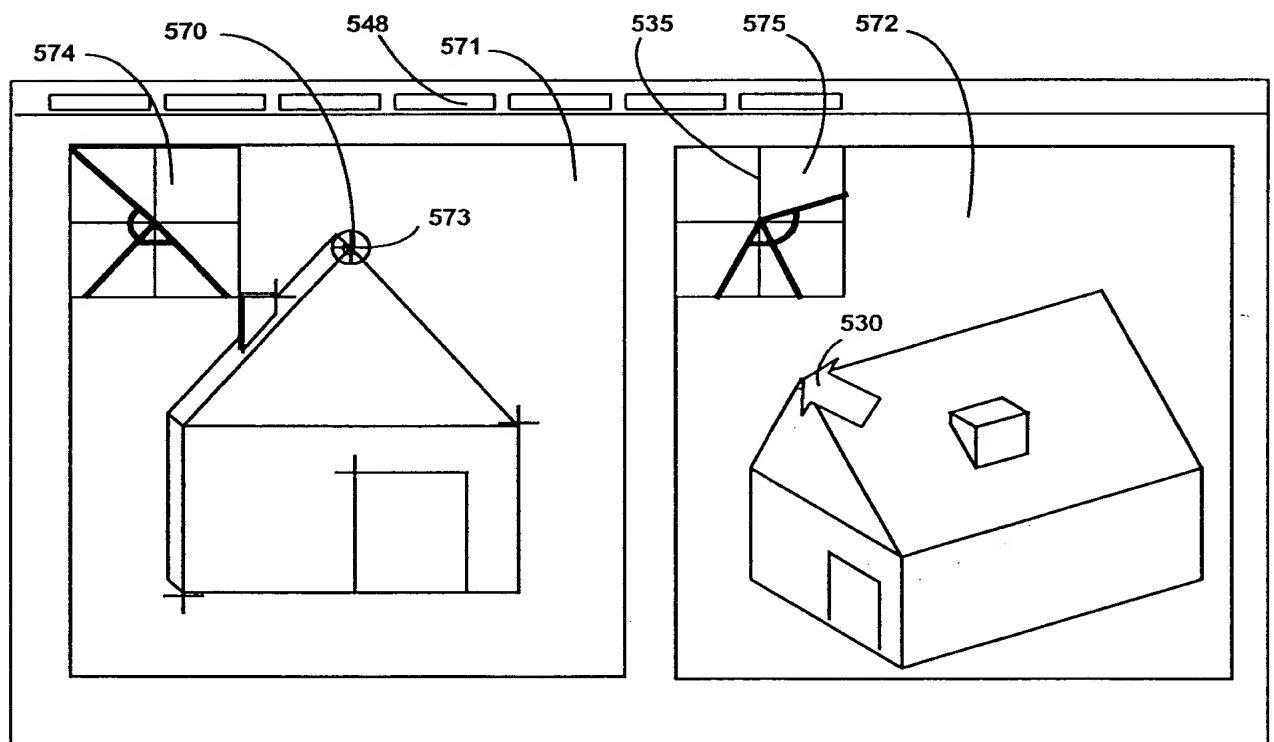
MATCHING BETWEEN SECOND AND THIRD IMAGES

Fig 42

INITIAL ORIENTATION OF MODEL IMAGE

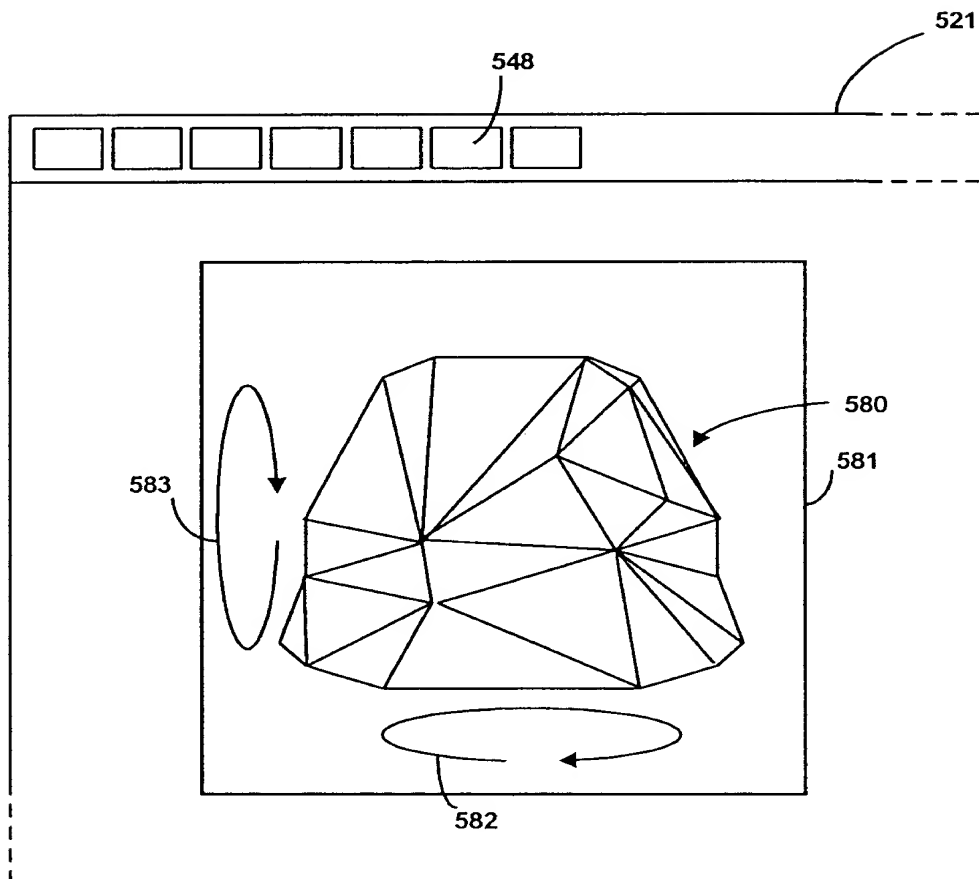


Fig 43

FACET SELECTION IN MODEL IMAGE

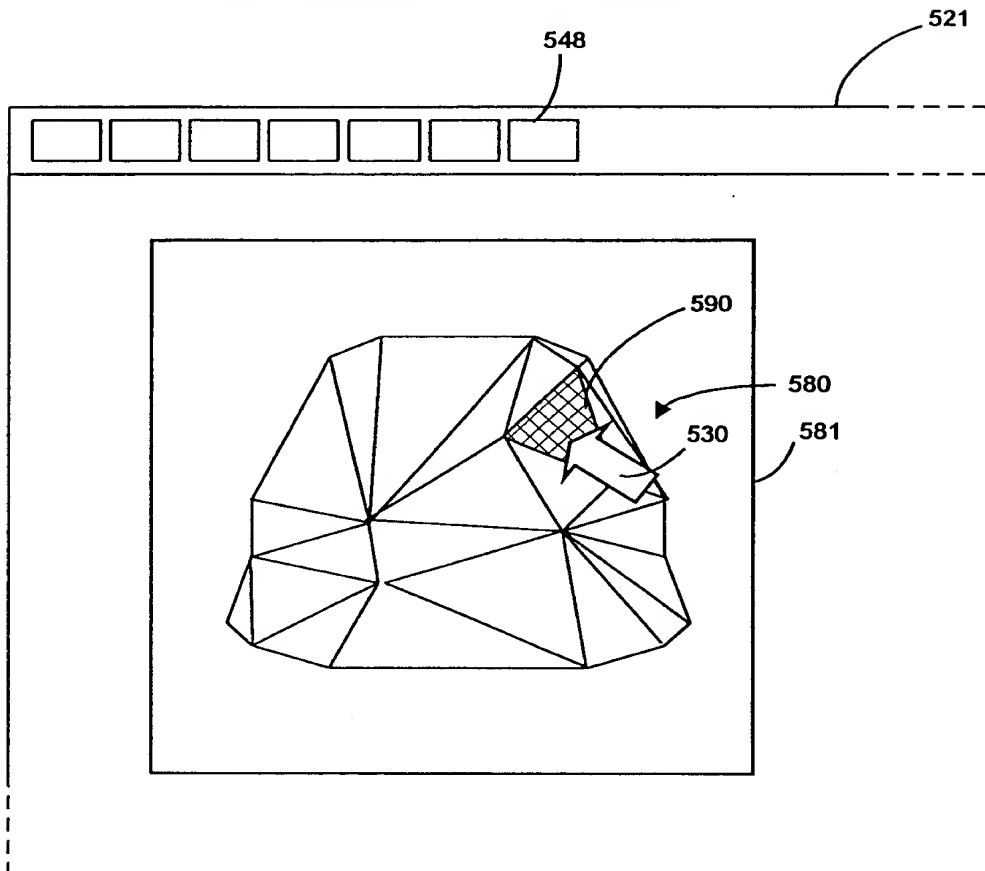


Fig 44

SELECTION OF MULTIPLE FACETS AND DISPLAY OF OPTIMUM AND
COMPLEMENTARY CAMERA IMAGES

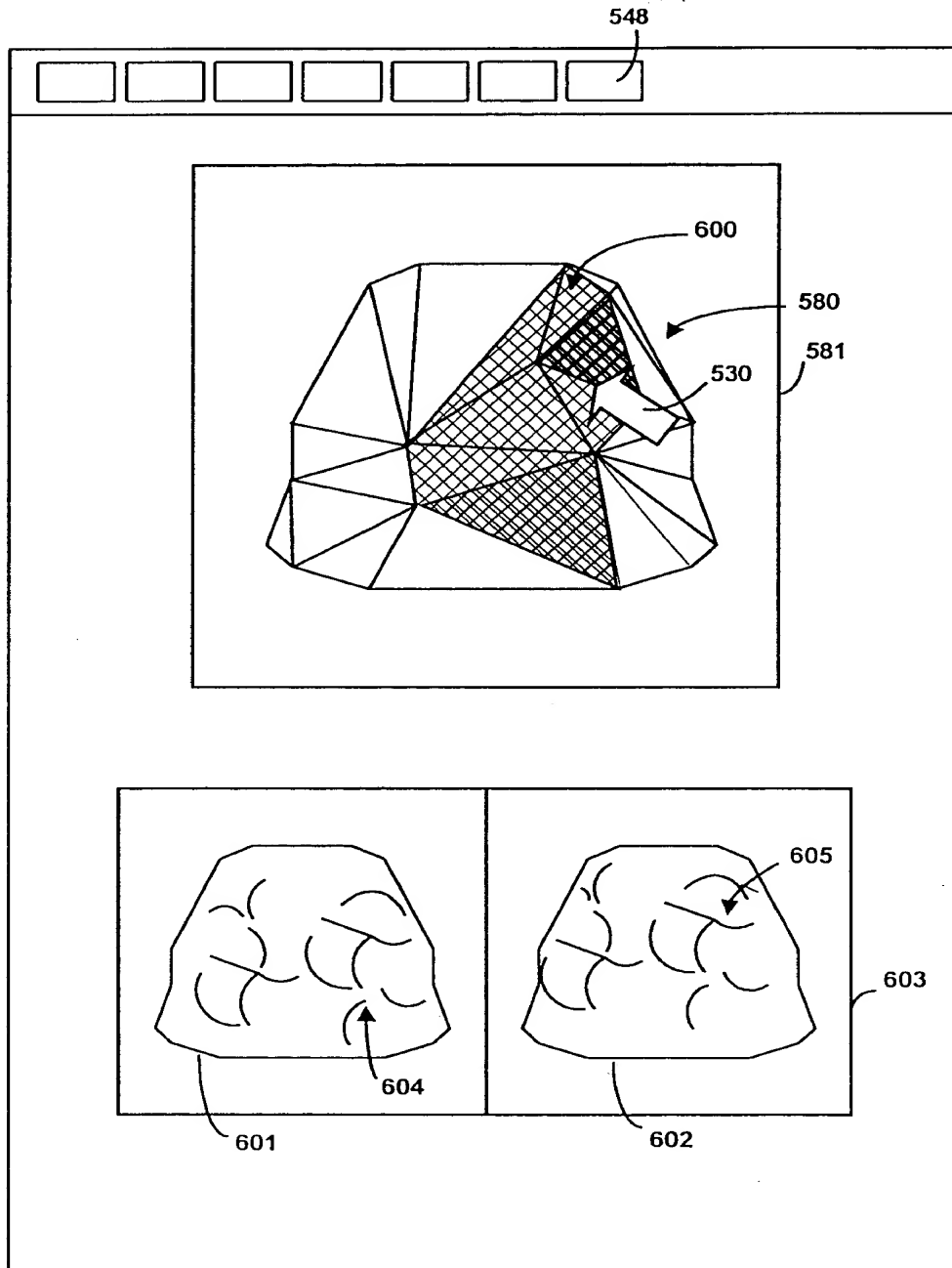


Fig 45

VIRTUAL CAMERA POSITIONS RELATIVE TO THE MODEL

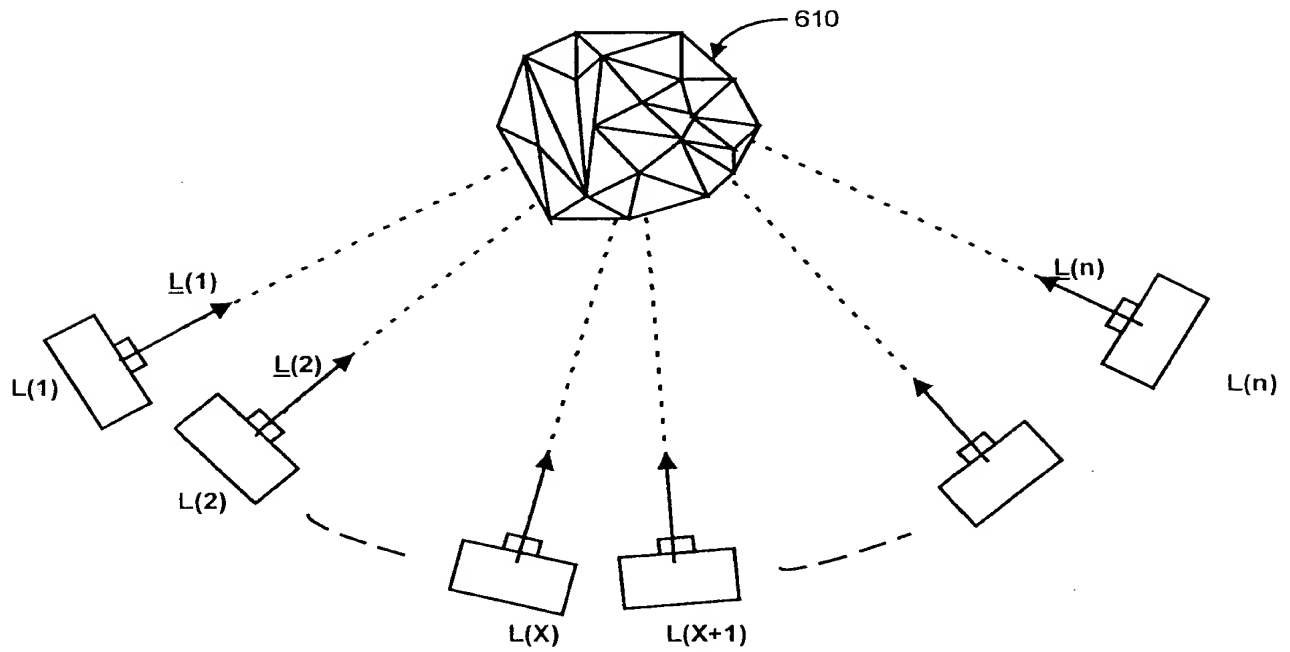


Fig 46

UNIT VECTORS FOR ASPECT MEASUREMENT

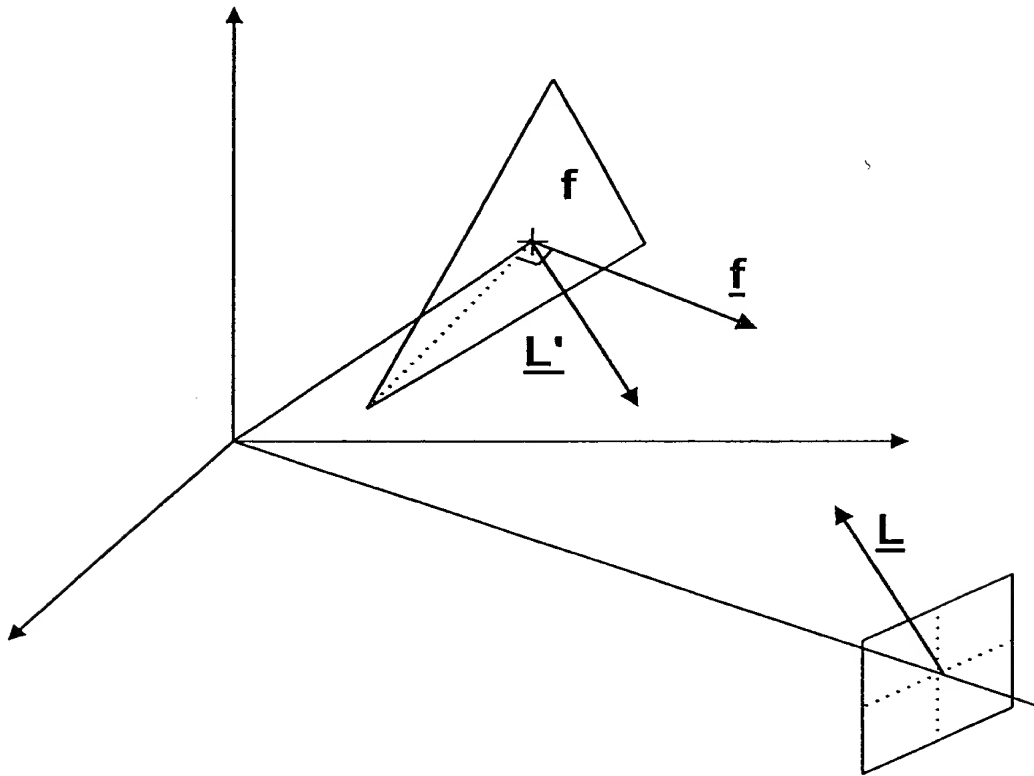


Fig 47

VISIBLE AREA MEASUREMENT FOR A GIVEN FACET

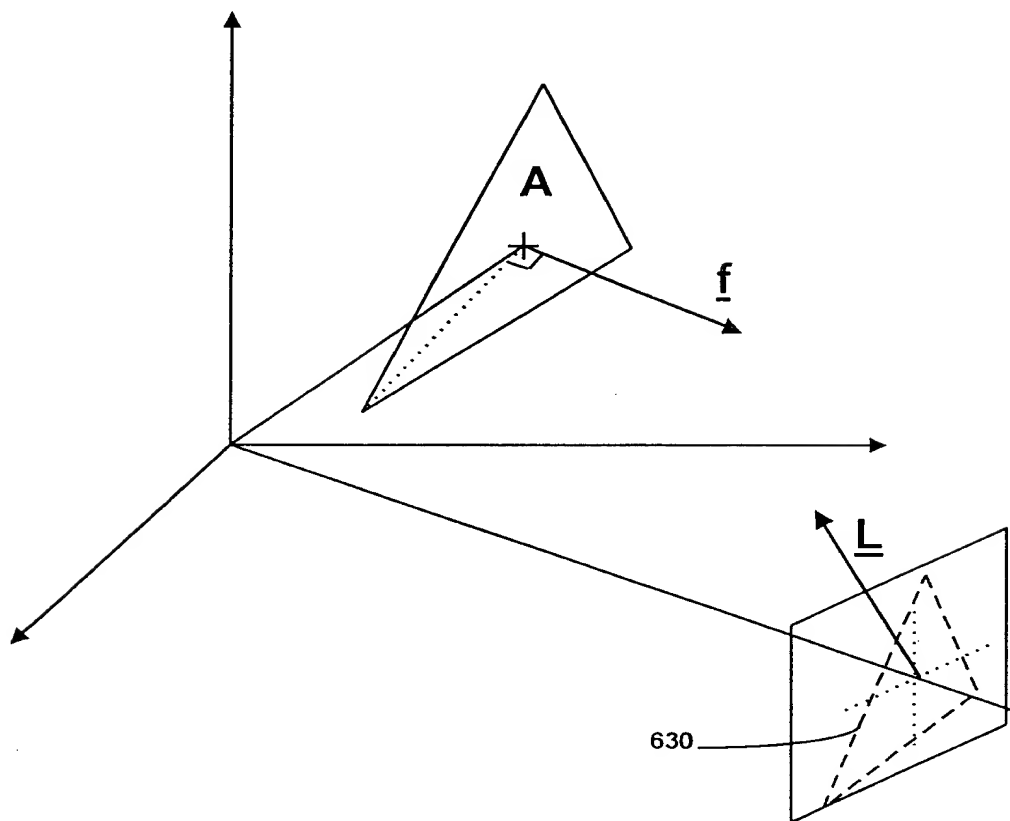
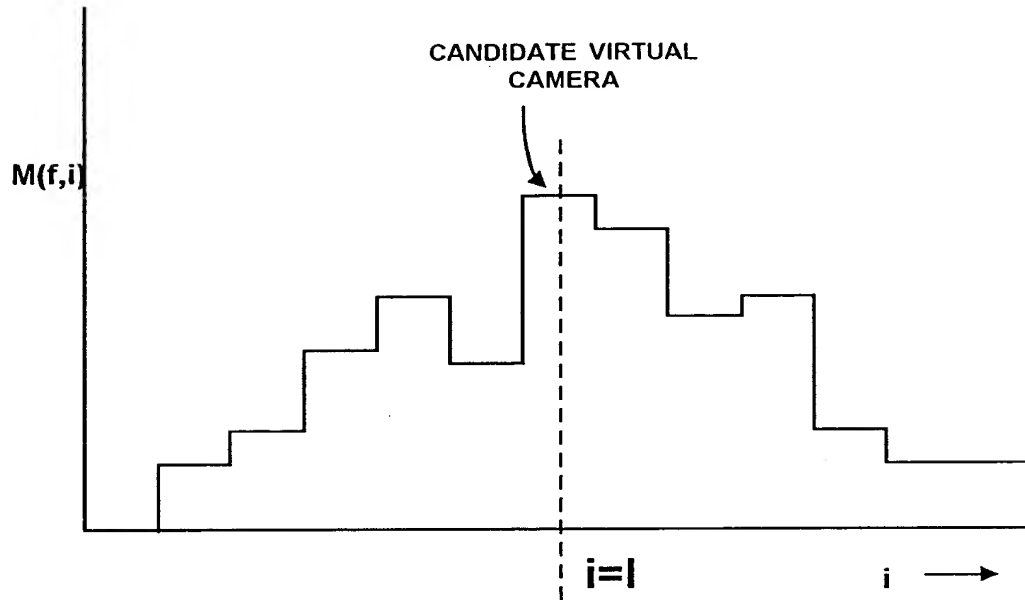


Fig 48

HISTOGRAM OF ASPECT MEASUREMENT FOR A GIVEN FACET
FOR EACH VIRTUAL CAMERA

**Fig 49**

HISTOGRAM SHOWING FREQUENCY WITH WHICH VIRTUAL
CAMERAS ARE SELECTED AS CANDIDATE CAMERAS

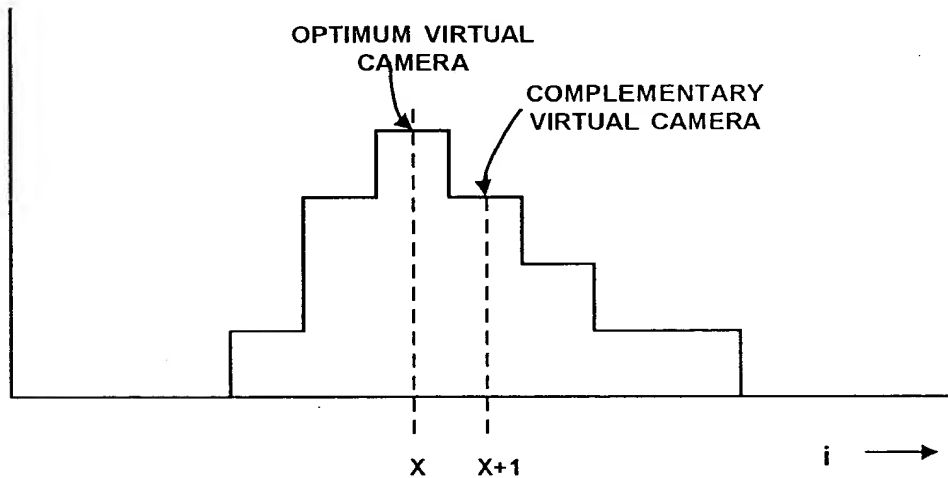


Fig 50

UPDATING MODEL BY MATCHING POINTS

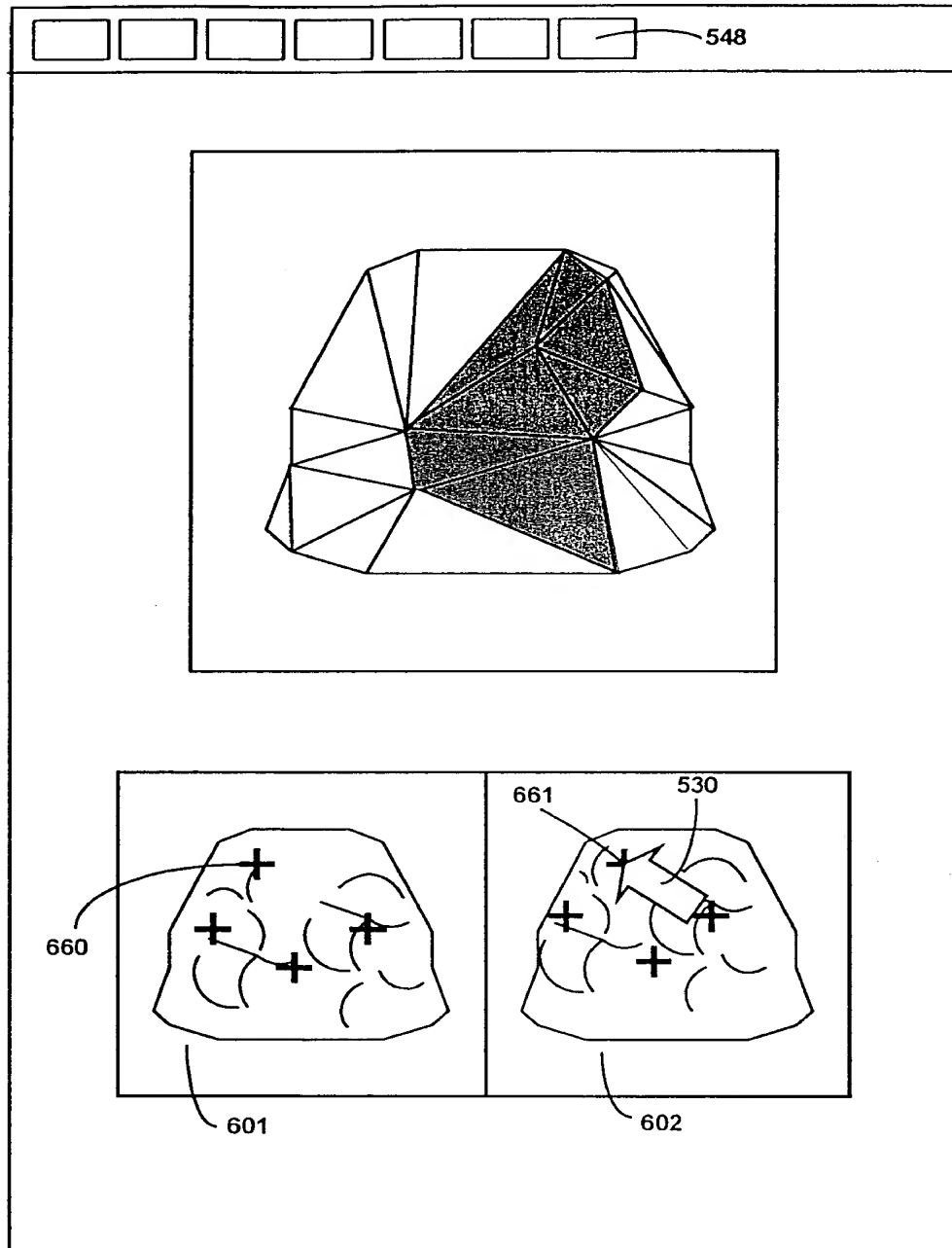


Fig 51A

UPDATING MODEL DATA USING DRAG AND DROP METHOD

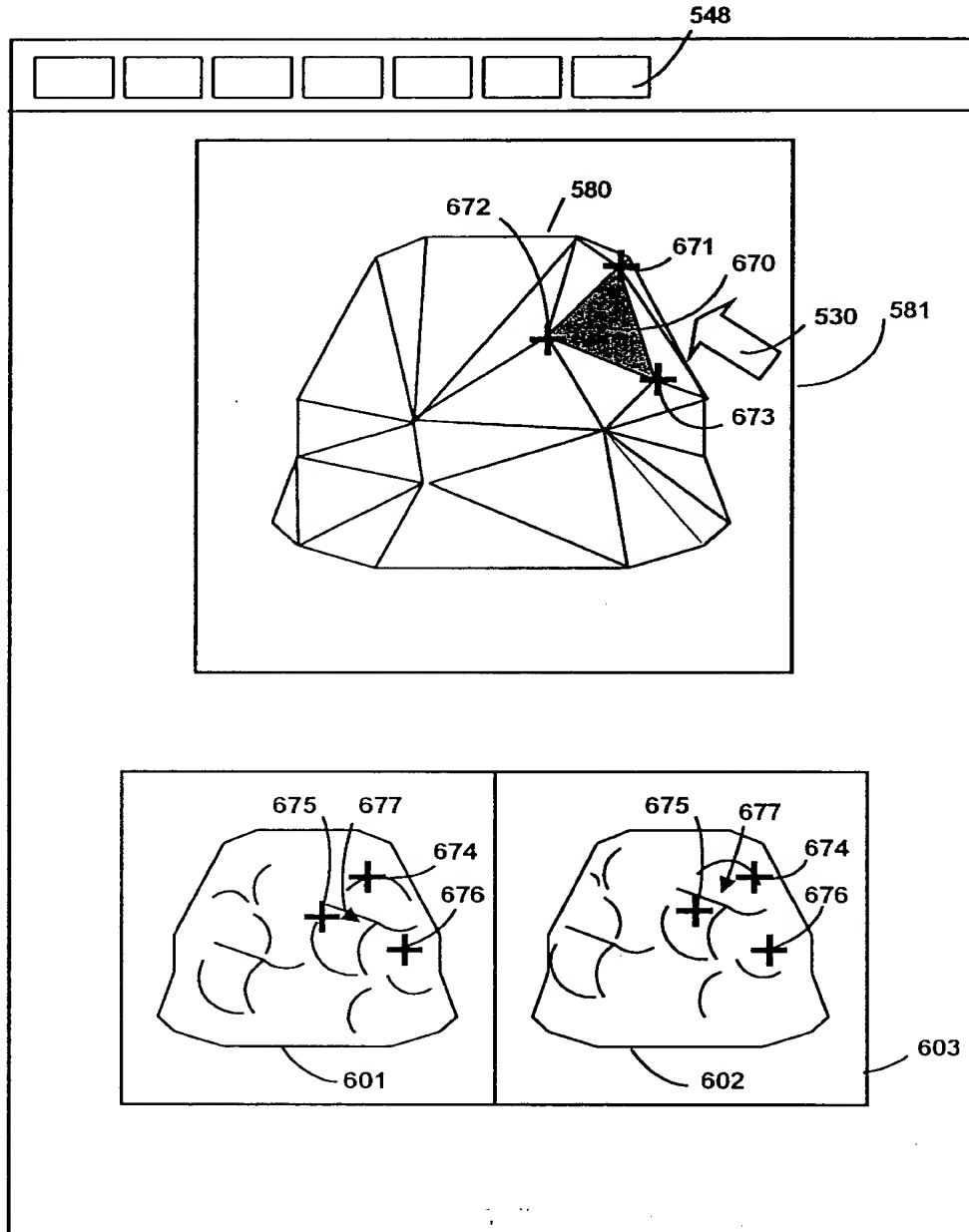


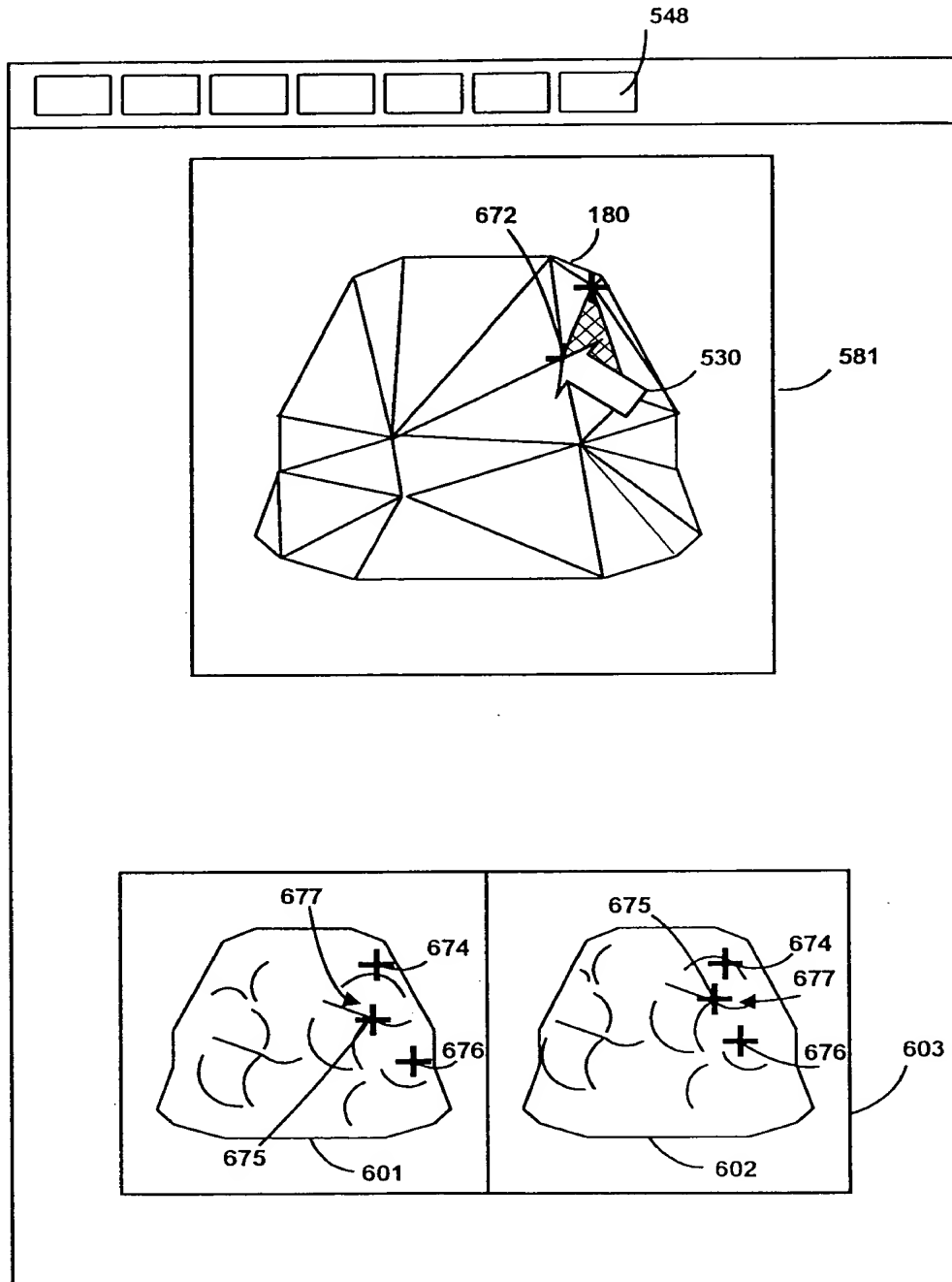
Fig 51B**MODEL POINT MOVED BY USING DRAG AND DROP METHOD**

Fig 52A

49/55

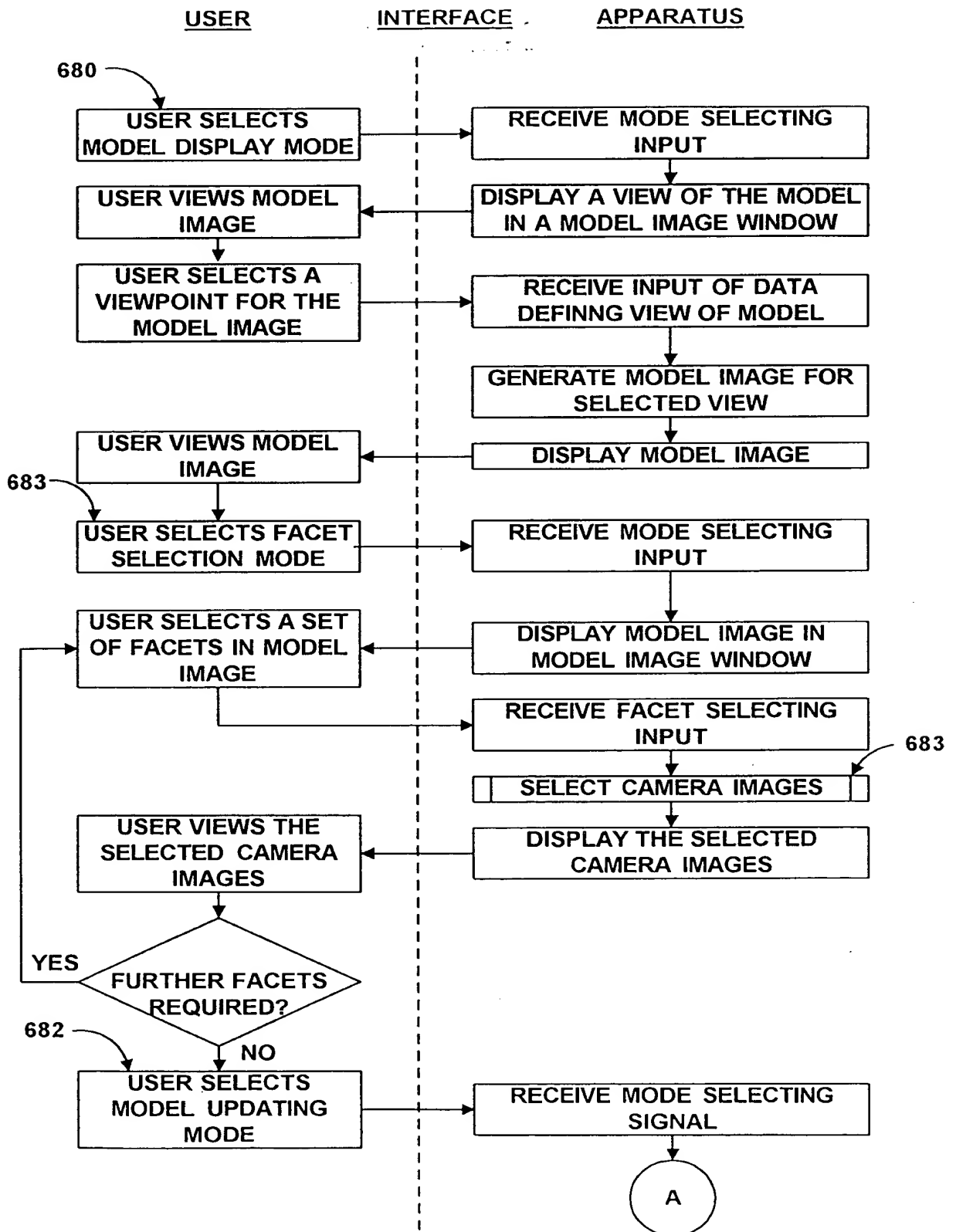


Fig 52B

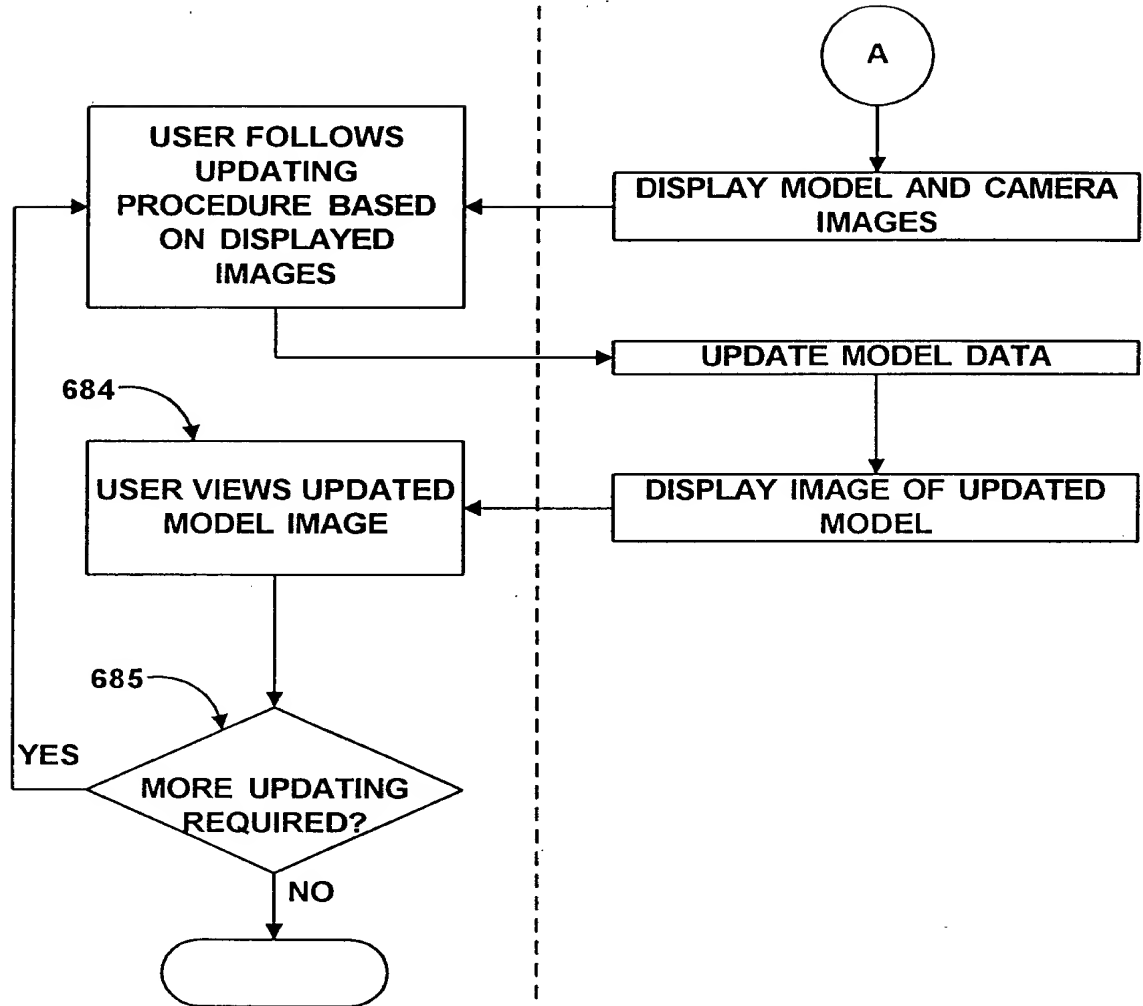
INTERFACE

Fig 53

SELECTION OF OPTIMISED CAMERA IMAGES
USING ASPECT MEASUREMENTS

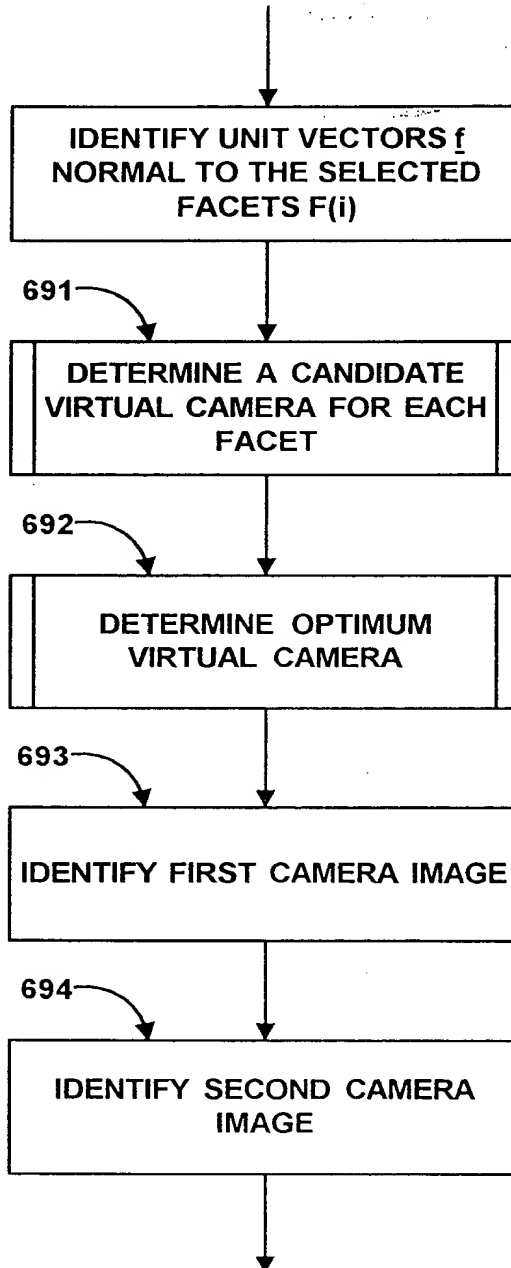


Fig 54

DETERMINATION OF CANDIDATE VIRTUAL CAMERA
FOR EACH FACET BASED ON ASPECT
MEASUREMENTS

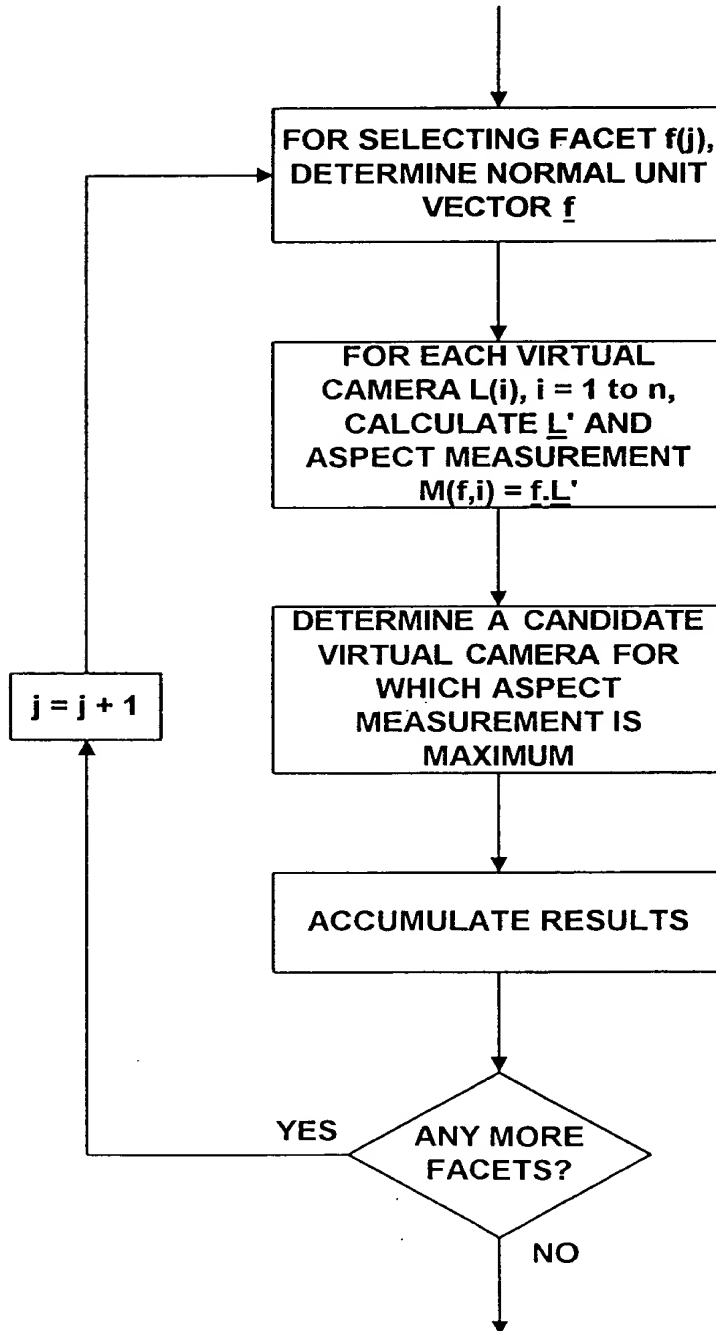


Fig 55

DETERMINATION OF OPTIMUM VIRTUAL CAMERA
BASED ON ASPECT MEASUREMENTS

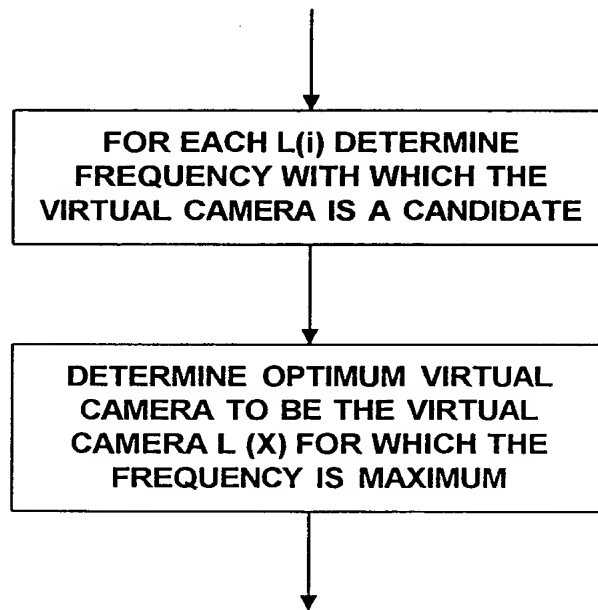


Fig 56

DETERMINATION OF OPTIMUM VIRTUAL CAMERA
BASED ON VIEWABLE AREA MEASUREMENTS

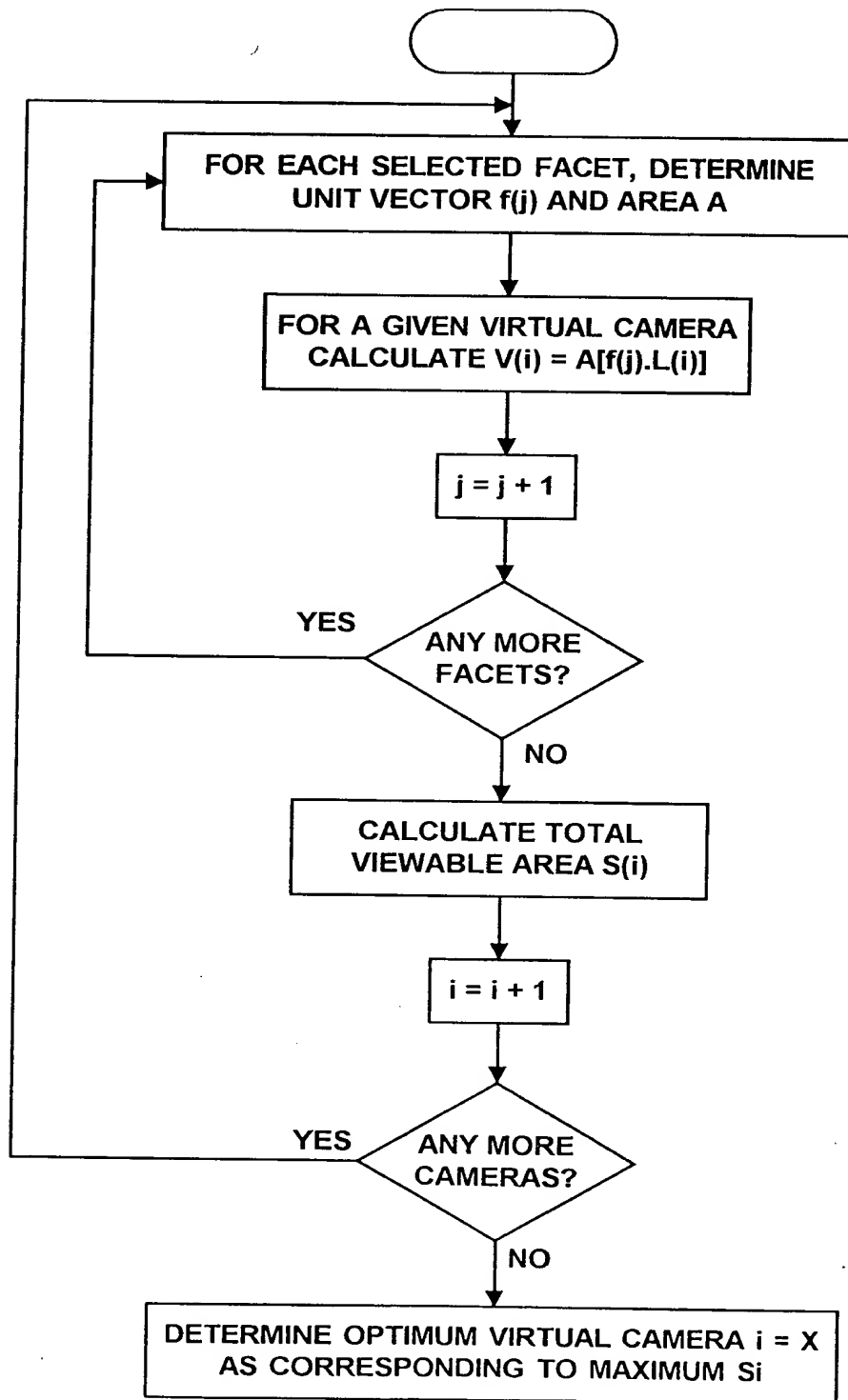


Fig 57

